Louis Andersen
Public Works Director

Scott Bender
County Engineer

ORIGINAL NEW APPLICATION

0000153933

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Arizona Corporation Commission
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Arizona Corporation Commission
Office of Railroad Safety
Attn: Brian Lehman
2200 N. Central Ave., Ste 300
Phoenix, AZ 85004

RE: Application to install over pass crossing and convert existing at grade vehicular crossing to pedestrian/equestrian only crossing
Project: Kelvin Bridge Replacement
ADOT Tracs # 0000PN PPN SB410 01C
Copper Basin Railway MP 987.10 CBRY Hayden Branch Line
New Structure DOT #934315J
Modification of Crossing DOT #742-396E

RR-02636A-14-0181

Mr. Lehman,

This application is being submitted to allow the Copper Basin Railway, through cooperative efforts with Pinal County, to construct a new over pass at the railroad crossing as part of the proposed Kelvin Bridge Replacement Project. Also, because the project relates to the existing bridge, this application is submitted to approve the conversion of the existing at grade vehicular crossing to a pedestrian/equestrian only crossing.

1. **Project Location and Description**
   Location-Far East side of Pinal County approximately 18-20 miles east of Florence along the Florence-Kelvin Highway at the Gila River near the community of River Side. Project is located south of Superior, north of Kearney, and 1 mile west SR 177. As shown on attached map.

   Kelvin Bridge Replacement Project will consist of an over pass at the Copper Basin Railway as part of a new bridge for vehicular traffic to be constructed upstream and parallel to the existing 1916 Kelvin Bridge. The proposal for the existing 1916 Kelvin Bridge at grade railroad crossing is to convert this crossing into a pedestrian/equestrian only crossing allowing the separation of the vehicular traffic. It is proposed to remove to the existing crossing signals and install a pedestrian/equestrian maze at this location to assist in safety. As well as installation of a new crossing surface.

2. **Why the crossing is needed**
   The current at grade railroad crossing has inherent safety issues. The crossing has a high volume of pedestrian/equestrian traffic do to the close proximity of the Arizona Trail Head. Pedestrians/Equestrians utilize this crossing along with vehicular traffic. The project will vastly upgrade and improve current crossing conditions.

3. **Construction Phasing**
   Once an opinion and order is issued, it is anticipated the construction of the over pass to be put out to bid by the end of 2014 with construction to begin early 2015. At the completion of the over pass, anticipated by the end of 2015, Copper Basin Railway will acquire and install the Pedestrian/Equestrian Maze, crossing surface, and remove existing crossing signals within a 6 months.

4. **Why the proposed or existing crossing can't be grade separated**
   The project proposes an over pass grade separation.

5. **Type of warning devices to be installed**
   The project proposes an over pass grade separation and a Pedestrian/Equestrian Maze.

6. **Maintenance of the crossing**
   Pinal County will be responsible for installing and maintaining the crossing surface and Pedestrian/Equestrian Maze. Pinal County will also be responsible for maintaining the road approaches outside of Copper Basin Railway responsibility.

7. **Project Funding**

Kelvin Bridge Replacement Construction w/Over Pass

Federal-aid funds @ 94.3%	**$ 1,000,000.00**
Pinal County's match @ 5.7%	**$ 60,445.00**
Pinal County's contribution @ 100%	**$ 5,444,955.00**
Subtotal – Construction	**$ 6,505,400.00**

Total Estimated Pinal County Funds	**$5,515,400.00**
Total Federal Funds	**$1,000,000.00**
TOTAL Estimated Project Costs	**$6,515,400.00**

1916 Existing Kelvin Bridge – Copper Basin Railway at Grade Crossing Improvements

Pinal County Funded **$ 106,133.79**

8. **Other Information:**
   -Average Daily Traffic Counts of 249.
   -1916 Existing Kelvin Bridge at Grade Crossing currently has crossing signals installed.
   -Copper Basin Railway has 2 daily train movements through this crossing at a speed from 10 to 25 mph with no switching.
   -Kearney School District utilizes the existing crossing as a bus route.

Sincerely,

5.29.14

Joe R. Ortiz
Engineering Support Division Head
Pinal County Public Works
31 North Pinal Street, Building F
P.O. Box 727
Florence, AZ 85132

KELVIN BRIDGE REPLACEMENT PROJECT

RAILROAD AGREEMENT

BETWEEN
PINAL COUNTY
DEPARTMENT OF PUBLIC WORKS

AND

COPPER BASIN RAILWAY

PINAL COUNTY PUBLIC WORKS PROJECT NO. 3111688
ADOT CONSTRUCTION TRACS NO. 0000 PN PPN SB410 01C
ADOT PROJECT NO. BR-PPN-0(169)A
HIGHWAY: FLORENCE-KELVIN HIGHWAY
LOCATION: JAKE BRIDGE OF UNITY
CBRY MP 987.10 ON CB RY Hayden Branch Line
NEW STRUCTURE DOT # 934315J
MODIFICATION OF CROSSING DOT # 742-396E
RAIL MILE 987.10

INDEX

THIS AGREEMENT made this _____ day of _____, 20__, between the COPPER BASIN RAILWAY, Inc. (CBRY), a C corporation, hereinafter called, "CBRY", and PINAL COUNTY, acting by and through its DEPARTMENT OF PUBLIC WORKS, hereinafter referred to as "COUNTY".

PREAMBLE RECITALS:

A. CBRYowns and operates a line of railroad known as its Hayden Branch Line in and through the County of Pinal, near the City of Kearny, Arizona.

B. COUNTY proposes to construct a new Bridge STRUCTURE (as defined below). STRUCTURE will be located near CBRY milepost 987.10 and have an DOT# 934315J. PROJECT will also remove and modify the CROSSING as defined below. The parties hereto desire to express in writing their understanding and agreement with respect to responsibilities for the construction and maintenance of the STRUCTURE and facilities affected by the PROJECT and pursuant to which the connecting roadways and other improvements are to be constructed and maintained.

C. The plan and profile of the STRUCTURE are marked as **Exhibit B**.

D. All lettered exhibits are incorporated and made a part of this AGREEMENT by reference and attachment regardless of designation or alphabetical order.

AGREEMENT:

NOW, THEREFORE, IT IS MUTUALLY AGREED BY AND BETWEEN THE PARTIES HERETO AS FOLLOWS:

ARTICLE I

DEFINITIONS:

A. AGREEMENT means this specific AGREEMENT with all attached exhibits together with all attachments incorporated by reference.

B. CONTROLLED ACCESS means locations where owners or occupants of abutting lands and other persons have no legal right of access, e.g., freeway lanes and freeway ramps.

C. COST ACCUMULATION NUMBER means a unique CBRY cost accrual number of all costs incurred by CBRY in connection with RAILROAD WORK performed by CBRY in connection with the PROJECT.

D. CROSSING means the existing at-grade public road crossing for Florence-Kelvin Highway located approximately 25 feet Northeast of the proposed STRUCTURE at CBRY Milepost 987.10, DOT # 934315J. Crossing will be modified to a pedestrian only crossing at the end of the project.

E. EMERGENCY WORK by CBRY means work of an immediate nature required to maintain the integrity of rail service, restore railroad operations or for the protection of persons or CBRY property.

F. PLANS means (i) the final one hundred percent (100%) completed PROJECT plans and specifications affecting and pertaining to CBRY tracks and right of way prepared by COUNTY and identified with COUNTY's CONSTRUCTION PROJECT NUMBER that have been approved, as to CBRY involvement activity, in writing by CBRY's President, or his authorized representative (General Superintendent) and (ii) CBRY's Minimum Construction Requirements.

G. PROJECT means all work of every kind and character required in connection with all construction of the Jake Bridge of Unity where it crosses over CBRY railroad facilities. The PROJECT includes, but is not limited to, any and all roadway improvements, changes to railroad safety devices and appurtenances, communication lines, signal and electrical lines and appurtenances, grading, both temporary and permanent drainage facilities, irrigation facilities, signing and striping, modification to utilities, right of way acquisition, preliminary and construction engineering, contract preparation, cuts, fills, highway pavement, retaining walls and all highway facilities at the locations shown on COUNTY's PROJECT PLANS and specifications included herein by reference only.

H. RAILROAD WORK means the work to be performed by CBRY, at COUNTY's expense, which is described in the **Exhibit A**. The RAILROAD WORK shall include any work performed by CBRY or its contractors and agents, including, without limitation, any pre-engineering or preliminary review of Plans, engineering, management, administration, design, review or preparation of plans and specifications, inspection and construction labor, materials and equipment as set forth in the AGREEMENT, including approved changes in scope. Work for flagging protection shall be billed directly to COUNTY who will apply for right of entry as directed in the PROJECT PLANS. For this PROJECT, the RAILROAD WORK involves flagging, preliminary review of Plans, PROJECT inspection and modification of CROSSING upon completion of STRUCTURE.

I. STRUCTURE means the new Jake Bridge of Unity overpass that will carry vehicular traffic over CBRY's trackage and right of way at CBRY Milepost 987.10 on CBRY's Hayeden Branch Line and will be identified by DOT # 934315J. The design will be detailed in the PLANS.

J. WORK means the work to be performed by COUNTY's Contractor and agents within CBRY's right of way in accordance with the PROJECT PLANS. WORK shall include engineering, management, administration, design, and construction labor, including approved changes in scope.

K. WORK ORDER NUMBER means a unique CBRY cost accrual number of all costs incurred by CBRY in connection with RAILROAD WORK performed by CBRY in connection with the PROJECT.

ARTICLE II

IN CONSIDERATION of the covenants of COUNTY hereinafter set forth, and the faithful performance thereof, CBRY, at COUNTY's expense, agrees as follows:

1. To furnish the RAILROAD WORK with its own employees working under Railroad Labor Agreements or by contractor(s), if necessary. COUNTY shall reimburse CBRY for any Railroad Work on an actual cost basis in accordance with **EXHIBIT A**. CBRY estimates its daily flagging rate could be approximately Four Hundred and Fifty Dollars ($450.00) per ten (10) hour day. CBRY will bill actual flagging costs based on its current flagging rates when the flagging is performed. The furnishing of such watchmen and flaggers shall be as necessary for the safety of CBRY's property and the operation of its trains during construction of the PROJECT. Payment for flagging protection will be made directly by COUNTY's Contractor to CBRY based on invoices to COUNTY's Contractor for actual work specific for flagging protection.

   Construction of the PROJECT shall include the following RAILROAD WORK by CBRY and at County's expense.

   a. Modification of the CROSSING to pedestrian only use

      i. Removal/relocation of crossing signals at an estimated cost of $60,508.

      ii. Installation of new crossing surface at an estimated cost of $15,125.79.

      iii. Installation of Pedestrian Crossing Maze at an estimated cost of $30,500.

      iv. Railroad Flagging at and estimated cost of $450/day @ 80 days = $36,000.

      v. Relocation of public access to pedestrian crossing and/or travel to residential area at County's expense.

   b. If construction of the PROJECT has not commenced within three (3) years from the date of this AGREEMENT, the Highway Grant shall be rescinded and released by COUNTY executing and delivering to CBRY a Release and Quitclaim in recordable form. The AGREEMENT will terminate and become null and void and the $000.00 paid by COUNTY for said rights shall be returned to COUNTY by CBRY.

2. CBRY may submit to COUNTY's Contractor monthly invoices for actual flagging costs and submit to COUNTY monthly itemized invoices for preliminary engineering review of the PLANS and PROJECT inspection notwithstanding the fact that CBRY's preliminary engineering review has preceded the date of this Agreement. Except for the final invoice, monthly invoices shall only be submitted for costs of Five Hundred Dollars ($500.00) or more. COUNTY or its Contractor shall provide written notice to the person named in Article IV, section 27, that flagging services are no longer needed. This notice shall be provided to CBRY at least five (5) days in advance of when flagging services are no longer required. CBRY shall, within one hundred and twenty (120) days after receiving such

written notice from the COUNTY or its contractor, submit to COUNTY's Contractor detailed invoices covering the actual cost of all flagging. COUNTY or its Contractor shall also provide written notice to the CBRY person named in Article IV, Section 27, that all work on or above CBRY's Right of Way is complete. CBRY shall then, within one hundred and twenty (120) days after receiving such notice, submit to COUNTY a detailed invoice covering the actual cost of performing any RAILROAD WORK, as described in Article II, Paragraph 2, including applicable taxes and standard CBRY direct and indirect overhead labor additives and subcontracting administration charges. Invoices shall include a detailed cost run summary, the appropriate AGREEMENT number, CONSTRUCTION TRACS NUMBER, and COST ACCUMULATION NUMBER OR WORK ORDER NUMBER, and shall be labeled as "Progress Invoice" or "Final Invoice", as the case may be. Final invoice will be accompanied by a detailed cost run summary. Costs shall be accumulated and invoiced in accordance with the Federal Aid Policy Guide as contained in 23 CFR 140, subpart I and 23 CFR 646, subparts A and B, which regulations are incorporated into this AGREEMENT by reference.

Compensation for flagging costs associated with PROJECT will be at County's expense.

Costs shall be accumulated and invoiced in accordance with the Federal Acuisition Regulations. The United States Code of Federal Regulations, 23 C.F.R. 646 and 23 C.F.R. 635.410, is incorporated into this agreement by reference.

3. CBRY agrees to coordinate with COUNTY's Contractor with respect to construction schedule and work-related items for the safe and effective progress of the RAILROAD WORK. When CBRY receives an "Application For Right Of Entry" from COUNTY's Contractor, CBRY shall begin a dialog with COUNTY's Contractor to mutually schedule and coordinate their respective work. COUNTY's Contractor and representatives of CBRY shall meet, or communicate, on a monthly basis to review the WORK and RAILROAD WORK completed to date and together schedule future work items. CBRY shall make commercially reasonable efforts to commit labor and materials necessary to respond within thirty (30) days to work activities identified by COUNTY's Contractor to be initiated by CBRY; however, CBRY shall have no liability to COUNTY, COUNTY's Contractor or any other person or entity, if CBRY does not complete the RAILROAD WORK within such anticipated time frame based on a reasonable cause from a legitimate unforeseen circumstance.

4. CBRY shall be given progress copies of COUNTY's design plans at the 30%, 60% and 95% level along with a copy of the final PS&E submittal by COUNTY's Consultant. CBRY shall review such plans and provide to COUNTY the changes that are needed with regard to CBRY facilities. If, after review of the final PS&E submittal, CBRY sees no significant changes affecting CBRY facilities from the previous submissions CBRY shall signify by letter, addressed to COUNTY (see Article IV, paragraph 27), its approval of the design PLANS as to the impacts to CBRY facilities.

5. COUNTY confirms that all portions of the STRUCTURE that are the subject matter of this Agreement are located on CBRY's railroad right of way. COUNTY shall have the right to request that CBRY's Contractor, who is working or acting in an incompetent, negligent or unsafe manner while located on COUNTY's right of way beyond the boundaries of CBRY's railroad right of way ("Non-CBRY ROW") be removed from the Non-CBRY ROW. In the event that CBRY's Contractor elects not to honor such request, then COUNTY may stop such work or activity on the"Non-CBRY ROW" until the matter has been resolved to COUNTY's satisfaction. In the event that CBRY's Contractor elects not to honor such stop work or stop conduct request, COUNTY may stop the incompetent, negligent, or unsafe work or conduct occurring on the Non-CBRY ROW until the matter has been fully resolved to COUNTY's satisfaction. Before COUNTY takes action to stop work or conduct on Non-CBRY ROW, the matter will be resolved through COUNTY's Engineer (if the problem occurs during the initial construction of COUNTY's structure) or through COUNTY's District Maintenance Engineer (if the problem occurs after initial construction.) COUNTY will make the final decision on matters involving Non-CBRY ROW. For work or conduct performed by CBRY's contractors on Non-CBRY ROW, CBRY's Contractor shall notify COUNTY's District Maintenance Engineer. For work performed by CBRY's Contracors on Non-CBRY ROW, CBRY's ccontractors shall obtain any necessary government permit(s) required for work on Non-CBRY ROW from County's District Permit Officer. The term CBRY's contractor includes the employees and subcontractors of CBRY's Contractor.

6. Control of Materials. Steel and iron materials and products used on this WORK shall comply with the current "Buy America" requirements of 23 C.F.R. 635.410 and conform to the requirements of ADOT Standard Specifications; subsection 106.15 as indicated in Exhibit "BA".

ARTICLE III

IN CONSIDERATION of the covenants of CBRY herein set forth and the faithful performance thereof, COUNTY, at its expense, agrees as follows:

1. To provide to CBRY the design PLANS as set forth in Article II, paragraph 7. A copy of the final PLANS are hereby adopted and incorporated into this AGREEMENT by reference. COUNTY agrees that neither it nor its Contractor shall commence any PROJECT work on any CBRY right of way until it has received CBRY's written approval of the PLANS. Notwithstanding CBRY's approval of the PLANS, CBRY shall not be responsible for the design, details, permitting or construction of the STRUCTURE.

2. To make application to the Arizona Corporation Commission for an order authorizing construction of the PROJECT together with a copy of this AGREEMENT.

3. Upon completion of this project, County will use the CROSSING as a Pedestrian only at-grade crossing at their own risk

   CBRY will submit a Pedestrian Crossing Agreement to the County separate from this document, which includes indemnification clause(s).

4. To make any and all arrangements to secure the location, or relocation, of wire lines, pipe lines and other facilities owned by private persons, companies, corporations, political subdivisions or public utilities, other than CBRY, which may be found necessary to locate, or relocate, in any manner whatsoever due to the construction of the PROJECT. CBRY shall work closely with COUNTY design personnel to identify points of conflict between new CBRY facilities and existing utility facilities.

5. To reimburse CBRY for work of an emergency nature caused by COUNTY or COUNTY's Contractor, in connection with the PROJECT that CBRY deems is reasonably necessary for the immediate restoration of railroad operations, or for the protection of persons or CBRY property. Such work may be performed by CBRY without prior approval of COUNTY; however, COUNTY reserves the right to review the cause of said work to determine payment responsibilities. If the parties cannot agree on the responsible party for damages, the matter will be resolved through compromise, arbitration or adjudication. Pursuant to A.R.S. Section 12-1518, the parties shall use arbitration, after exhausting applicable administrative remedies, to resolve disputes arising out of this AGREEMENT where the sole relief sought is monetary damages of $100,000.00, or less, exclusive of interest and costs.

6. To furnish all labor, materials, tools and equipment in performing the WORK and constructing the STRUCTURE in conformance with the PLANS to be performed by COUNTY as hereafter provided. Construction with respect to said PROJECT shall be undertaken by the COUNTY's Contractor and shall be performed in a manner as to not interfere with the safe and timely operations of CBRY's locomotives, trains, cars and on-track maintenance equipment or other CBRY tracks or facilities.

7. To require its Contractor(s) to notify CBRY's General Superintendent, or designated representative at least fifteen (15) calendar days in advance of commencing work on CBRY property or near CBRY's tracks, when requesting a CBRY flagger, in accordance with the requirements of the Right of Entry documents, in order to protect CBRY from damage or interference to CBRY's trains and property.

8. To require its Contractor(s) to coordinate their work each day with CBRY's operations, prior to commencing any construction activity that may affect CBRY operations, by contacting CBRY's General Dispatcher.

9. To require its Contractor(s) to furnish CBRY's General Superintendent, for approval, five (5) copies of plans and two (2) sets of calculations for any falsework, shoring or cribbing proposed to be used over, under, or adjacent to CBRY's tracks. The use of such false work, shoring or cribbing shall conform to the standard clearances required by the Commission, or CBRY, whichever is more stringent. In case the use of such shoring will impair said clearance, COUNTY will ensure that application is made to the Commission for approval of such impairment during the period of construction of the PROJECT. County shall ensure that it or its Contractor(s) provide such material to CBRY for approval at least thirty (30) days in advance of when the County or its contractor(s) need such approval.

   To ensure that all existing CBRY maintenance roadways will remain open at all times during construction.

10. To supervise, at its expense, the operations of all COUNTY's Contractors through the use of inspectors who are qualified to inspect the type of work being performed. Furthermore, if at any time during construction, CBRY discovers that any COUNTY inspection personnel are not properly inspecting the construction of CBRY facilities, CBRY shall have the right to request COUNTY to arrange for the immediate replacement of the inspection personnel who are not performing proper inspections. The responsibility of COUNTY for safe conduct and adequate policing and supervision of the PROJECT shall not be lessened or otherwise affected by CBRY's approval of the PLANS or by CBRY's collaboration in performance of any work, or by the presence at the work site of CBRY's representatives, or by compliance by COUNTY with any requests or recommendations made by such representatives. If a representative of CBRY is assigned to the PROJECT, COUNTY will give due consideration to suggestions and recommendations made by such representative for the safety and protection of CBRY's property and operations.

11. To allow CBRY, if necessary, to temporarily suspend RAILROAD WORK activity on the PROJECT to attend to work of an emergency nature elsewhere in the region. CBRY will not be subject to penalties as a result of such delays. Despite any such delay, CBRY shall work as expeditiously as possible under the circumstances to complete the RAILROAD WORK.

12. To pay CBRY for any flagging invoices not paid by any COUNTY contractors within ninety (90) days of its receipt of billing, subject to COUNTY review of construction accounts to prevent double billing.

13. To allow CBRY to include a charge, at the time of billing, equal to the amount allowed by 23 CFR 140 Subpart I, to cover the cost of labor additives and other benefits identified in the Federal audit of CBRY charges and fees currently approved. Such charge shall be considered a portion of the actual cost of the RAILROAD WORK. COUNTY acknowledges that it can elect, under 23 CFR 140 Subpart I, to reimburse CBRY for all indirect overhead labor and construction costs, using CBRY's standard additive rates, and COUNTY agrees to do so.

ARTICLE IV

IN CONSIDERATION of the premises, the parties mutually agree as follows:

1. That all WORK contemplated in this AGREEMENT shall be performed in a good and workmanlike manner in accordance with the PLANS. Each portion shall be promptly commenced by the parties hereto obligated to do the same and thereafter diligently prosecuted to conclusion in its logical order and sequence. Furthermore, any changes, or modifications, during construction that affect the RAILROAD WORK obligated by CBRY shall be agreed to by both parties in writing and attached as an addendum to this AGREEMENT.

2. That such WORK as defined in the PLANS, specifications and this AGREEMENT is subject to the Commission's approval, with minimum clearances of not less than those specified by the Arizona Corporation Commission, or as otherwise authorized by the Arizona Corporation Commission for CBRY's tracks at this location. It is expressly understood and agreed that COUNTY's Contractor shall store all

construction material and equipment off of CBRY's right of way and when performing any work on any CBRY right of way such materials and equipment shall be at least twenty-five feet (25') from the centerline of CBRY's nearest track.

3. In the event of an unforeseen railroad emergency, CBRY reserves the right to reallocate all or a portion of its labor forces assigned to perform the RAILROAD WORK when CBRY believes such reallocation is necessary to provide for the immediate restoration of railroad operations of CBRY, or its affiliates, or to protect persons or property on or near any CBRY-owned property or any related railroad. CBRY will reassign such labor forces to again perform the RAILROAD WORK when, in its sole, but good faith opinion, such emergency condition no longer exists. CBRY will not be liable for any additional costs or expenses of the PROJECT resulting from any such reallocation of its labor forces. The parties further agree that such reallocation of labor forces by CBRY and any direct, or indirect, results of such reallocation will not constitute a breach of this AGREEMENT by CBRY.

4. COUNTY's Contractor shall conduct its WORK in a safe and orderly manner and according to the PLANS and specifications. COUNTY's Contractor shall at no time hinder the safe operation of CBRY facilities, nor shall it allow the CBRY-required insurance to lapse at any time. If any COUNTY Contractor shall prosecute the PROJECT WORK in a manner that CBRY deems to be hazardous to its property, facilities or the safe and expeditious movement of its traffic, or if the insurance described in the Right of Entry documents shall be canceled during the course of the PROJECT, CBRY shall have the right to stop the WORK within CBRY right of way until the acts or omissions of such COUNTY Contractor have been fully rectified to the satisfaction of CBRY's General Superintendent, or additional insurance has been delivered to and accepted by CBRY. Such work stoppage shall not give rise to, or impose upon CBRY, any liability to COUNTY. In the event that CBRY shall desire to stop work in CBRY right of way, CBRY agrees to give immediate notice thereof to the COUNTY's Engineer in an attempt to correct any deficiency.

5. During the construction of the PROJECT COUNTY's Contractor will not deposit any material, equipment or debris onto CBRY property that, in the opinion of CBRY, would hinder railroad operation or be unsafe to railroad operations. Contractor will not store material within CBRY's right of way. When Contractor personnel and equipment are not working, they shall be at least twenty-five (25) feet from the centerline of the nearest track.

6. All expenses incurred by CBRY and billed to the COUNTY or Contractor pursuant to Article II, paragraph 3, hereof, shall be in accordance with, and subject to the terms and provisions of 23 CFR 140 Subpart I, as amended or revised. COUNTY agrees to reimburse costs of all of CBRY's RAILROAD WORK as described in Article II, paragraph 3, hereof, notwithstanding the fact that such work has preceded the date of this AGREEMENT. COUNTY shall have the right to audit CBRY's costs, including any changes approved by COUNTY and CBRY.

7. CBRY's General Superintendent will be given a Notice To Proceed when the Opinion and Order has returned from the Arizona Corporation Commission. The construction of the PROJECT, on CBRY right of way, shall not be commenced until COUNTY's Contractor shall have given not less than thirty (30) working days' prior

written notice to CBRY's General Superintendent, which notice shall County the time that operations for construction of the PROJECT, on CBRY right of way, shall commence.

8. All utility crossings within the limits of the Permanent Easement will be covered by separate agreements between CBRY and each of the owners of the utilities. No highway drainage outfall points will discharge onto CBRY property, except as shown on the approved PLANS.

9. Upon completion of the RAILROAD WORK, COUNTY will notify CBRY's General Superintendent in writing that final invoices must be submitted within 120 days. After completion of the construction of said PROJECT as herein described:

    a. CBRY will, at its sole cost and expense, maintain, repair, renew, and reconstruct its roadbed, track, and all other railroad facilities;

    b. COUNTY will own and, at its sole cost and expense, maintain, repair, renew and reconstruct, the STRUCTURE, lighting, roadway drainage facilities, roadway approaches, and all appurtenances, and shall be responsible for all grafitti removal.

    c. County will be responsible to maintain, repair, renew and reconstruct approaches to the Vehicular and Pedestrian CROSSING(S) at County's expense.

    NOTE: ACC Rule requires the railroad to maintain the pedestrian crossing within 2 feet of existing tracks, County maintain the rest.

10. COUNTY shall have the right to maintain the STRUCTURE and connecting roads. If the COUNTY or its contractor needs to perform any maintenance or repair work that involves the side of the STRUCTURE, or below the STRUCTURE, or the CROSSING APPROACHES within twenty five (25) feet of any CBRY track, the COUNTY or its Contractor shall notify CBRY's General Superintendent to obtain prior authorization. If maintenance or inspection work is contracted to a consultant or Contractor, COUNTY will require its consultant, or prime Contractor(s), to comply with the obligations in favor of CBRY set forth in the Right of Entry documents issued by CBRY, as may be revised from time to time. Should personnel, or equipment, performing these functions operate within twenty-five (25) feet of the track centerline, or if the equipment has the potential to foul the track, CBRY, at its election, may require flagmen to protect its operations and the safety of the personnel performing the work. The cost of flagging will be borne by the COUNTY, its consultant or its Contractor, as the case may be.

11. If COUNTY shall deem it necessary or desirable, in the future, due to traffic conditions or maintenance concerns, to alter or reconstruct the facilities herein contemplated, it may do so, the cost of which shall be paid by COUNTY. However, COUNTY, prior to commencing any such alteration or reconstruction work, shall submit revised plans for review and approval to CBRY, and seek the execution of an addendum to this AGREEMENT or the completion of a separate agreement, if further encroachment upon CBRY's right-of-way results.

12. All the covenants and provisions of this AGREEMENT shall be binding upon and inure to the benefit of the successors and assigns of the parties hereto, except that no party may assign any of its rights or obligations hereunder without the prior written consent of the other party.

13. Nothing contained in this AGREEMENT shall be construed as obligating COUNTY to undertake the actual construction of the PROJECT until such time as it deems appropriate. In the event that construction of the PROJECT has not begun for a period of three (3) years from the date of CBRY's execution of this AGREEMENT, this AGREEMENT shall become null and void.

14. The acceptance date of this AGREEMENT shall be the day on which the last party executes the AGREEMENT.

15. In the event conditions or circumstances require a change in the scope of CBRY's RAILROAD WORK on the PROJECT, as set forth in this AGREEMENT and on the PROJECT PLANS, each party shall agree in writing to the changes, including payment responsibilities, prior to performing the work. COUNTY shall not be responsible for any costs associated with any change in the scope of RAILROAD WORK until COUNTY approves the change in writing. The proposed schedule for completion of RAILROAD WORK shall be adjusted to accommodate the change in scope and the time necessary for COUNTY to process the change request.

16. If COUNTY, due to an audit of CBRY's billing sent to COUNTY has any audit exceptions, COUNTY and CBRY shall discuss the audit exceptions and agree upon the amount of billing to COUNTY that is the subject matter of the audit exceptions. If, when doing such review, it is determined by COUNTY and CBRY that CBRY is to reimburse COUNTY for any payment already made by COUNTY to CBRY, CBRY shall make such reimbursement within ninety (90) days after COUNTY and CBRY have made such determination. Likewise, if it is determined by COUNTY and CBRY that COUNTY needs to make any additional payment to CBRY, COUNTY shall make such additional payment within ninety (90) days after COUNTY and CBRY have made such determination. If any audit exception(s) cannot be settled by COUNTY and CBRY through their discussions, the audit exception(s) shall be settled through compromise, arbitration or adjudication as provided in this AGREEMENT.

17. To the extent permitted by law, each Party (as "Indemnitor") agrees to indemnify, defend and hold harmless the other Party, its officers, officials, agents and employees (as "Indemnities") for any claims, losses, liability, costs or expenses (including reasonable attorneys fees) arising out of omissions, negligence, misconduct or other fault of the Indemnitor, its officers, officials, agents or employees in connection with work performed under this Agreement.

18. The parties shall use arbitration after exhausting applicable administrative remedies to resolve disputes arising out of this AGREEMENT where the sole relief sought is monetary damages of $100,000.00, or less, exclusive of interest and costs, as provided in A.R.S. § 12-1518.

19. When not pre-empted by Federal Law, rules and responsibilities, This AGREEMENT is subject to the provisions of Chapter 1 of Title 35, Arizona Revised Statutes.

20. CBRY shall comply with all applicable provisions of Executive Orders 75-5 and 99-4, "Non-Discrimination in Employment by Government Contractors and Subcontractors".

21. All parties hereby are put on notice that this AGREEMENT is subject to cancellation by the Pinal County Board of Supervisors pursuant to A.R.S. § 38-511 with the understanding, however, that COUNTY shall pay to CBRY within ninety (90) days, for all RAILROAD WORK completed, or in progress, up to the time of cancellation and COUNTY, at its expense, shall restore all CBRY right of way to a condition existing prior to the execution of this AGREEMENT by CBRY.

22. In accordance with A.R.S. § 35-214 for projects involving only COUNTY funding, all books, accounts, reports, files and other records relating to this AGREEMENT shall be subject at reasonable times to inspection and audit by COUNTY for five (5) years after the receipt of final payment. If a project is federally funded, as is this PROJECT, the time limit for inspection and audit of CBRY records by COUNTY shall be three (3) years after the receipt of the final payment. COUNTY shall notify CBRY on, or before, the advertisement date of the PROJECT as to which form of funding is utilized. At COUNTY's discretion said inspection and audit may be held at CBRY's offices in Hayden, Arizona during normal business hours. COUNTY shall conduct its inspection and audit at its expense, including CBRY's audit costs.

23. This AGREEMENT, including any schedules, exhibits or attachments hereto, constitutes the entire agreement between the parties, and no understanding or obligation not expressly set forth herein shall be binding upon them. No modification, amendment or alteration of this AGREEMENT shall be valid unless it is in writing and signed by both parties.

24. This AGREEMENT shall be governed by the laws of the County of Arizona, unless such laws are otherwise preempted by Federal statutes, rules and/or regulations.

25. The waiver by either party of any breach or failure to provide full performance under any of the terms or conditions of this AGREEMENT shall not be construed as a waiver of any other term or condition, or of any subsequent breach of the same or any other term or condition.

26. Any notice provided for or concerning this AGREEMENT shall be in writing and be deemed sufficiently given when sent by certified mail, return receipt requested, to the parties at the following addresses:

Bobby R. Blake
General Superintendent
Copper Basin Railway
PO Drawer I
Hayden, Arizona 85135

Public Works Director
31 North Pinal Street, Building F
P.O. Box 727
Florence, AZ 85132

27. Supporting documentation for reimbursement of RAILROAD WORK shall comply with 23 CFR 140 Subpart I. CBRY's invoice to COUNTY of actual costs incurred by CBRY under this PROJECT shall include CBRY'S WORK ORDER NUMBER or COST ACCUMULATION NUMBER and COUNTY's Agreement Number and TRACS Number. CBRY's cover letter to COUNTY sending any supporting documentation for such billing shall also reference CBRY's WORK ORDER NUMBER or COST ACCUMULATION NUMBER and COUNTY'S Agreement Number and TRACS Number with the understanding that the supporting documentation papers will not need to reference such numbers.

IN WITNESS WHEREOF, COUNTY has caused this AGREEMENT to be executed and attested by its duly qualified and authorized officials, and CBRY has executed this AGREEMENT, both as of the day and year first above written.

COPPER BASIN RAILWAY COMPANY

By: _____

Title: President

_____

Its: _____

Dated: 3-20-14

PINAL COUNTY, a political subdivision of the State of Arizona

By: _____
Chariman, Board of Supervisors

Dated: 4/9/2014

ATTEST:

_____
Clerk, Board of Supervisors

Dated: 4/9/2014

THE SEAL OF PINAL COUNTY ARIZONA

Approved as to form and within the powers and authority granted Pinal under the laws of the State of Arizona

_____
Deputy County Attorney

ACKNOWLEDGMENT BY CBRY

STATE OF Arizona)
) ss
COUNTY OF Pinal)

The foregoing instrument was acknowledged before me this 20th day of March, 2014, by L.S. Jacobsen, the President on behalf of Copper Basin Railway, Inc. a C corporation.

My Commission Expires:
August 11, 2015

Patti A Goodridge
Notary Public

PATTI A. GOODRIDGE
Notary Public - Arizona
Pinal County
My Commission Expires
August 11, 2015

ACKNOWLEDGMENT BY COUNTY

COUNTY OF ARIZONA)
) ss
COUNTY OF PINAL)

The foregoing instrument was acknowledged before me this 9th day of April, 2014, by Anthony Smith, the Chairman of, Pinal County ~~Department of Public Works~~ Board of Supervisors.

My Commission Expires:
1/13/18

Notary Public

OFFICIAL SEAL
AMBERLEE MUDD
NOTARY PUBLIC - State of Arizona
PINAL COUNTY
My Comm Expires January 13, 2018

EXHIBIT A

Summary Of Costs To Be Paid by COUNTY Through This AGREEMENT

Florence-Kelvin Highway
Jake Bridge of Unity

NEW OVERPASS AT RAIL MILE 987.10/ DOT # 934315J

Removal/relocation of crossing signals at an estimated cost of.....$60,508

Installation of new crossing surface at an estimated cost of.....$15,125.79

Pedestrian Railroad Crossing Maze.....$30,500

Subtotal $106,133.79

Total Estimated PROJECT Cost (Paid by COUNTY to CBRY) $106,133.79

Flagging costs for the structure are a separate cost and shall be invoiced to COUNTY.

Flagging will be billed to the COUNTY using CBRY current rates and actual number of flagging days. Currently the flagging rate for a ten (10) hour day is $450.00. COUNTY estimates that Eighty (80) days of flagging may be needed for the PROJECT. Based on the above, estimated flagging costs are:

80 estimated days of flagging X $450.00/day = **$36,000**

EXHIBIT A-1

New Crossing Surface

Private pedestrian crossing scope of work includes but not limited to the labor, material and equipment needed to install a private pedestrian crossing @ Milepost 987.10. Pedestrian crossing consists of the following:

1. 18 track feet of Omni rubber crossing panels for #136 rail
2. 11 – 7"x9"x9' hardwood crossties + otm (other track material)
3. 3 - laborers @ 2 – 10 hour days (items 4, 5 & 6)
4. 1 – foreman @ 2 – 10 hour days
5. 1 – crew truck equipped w/tools
6. 1 – 930 front end loader w/attachment @ 2 – 10 hour days

Pedestrian Railroad Crossing Maze

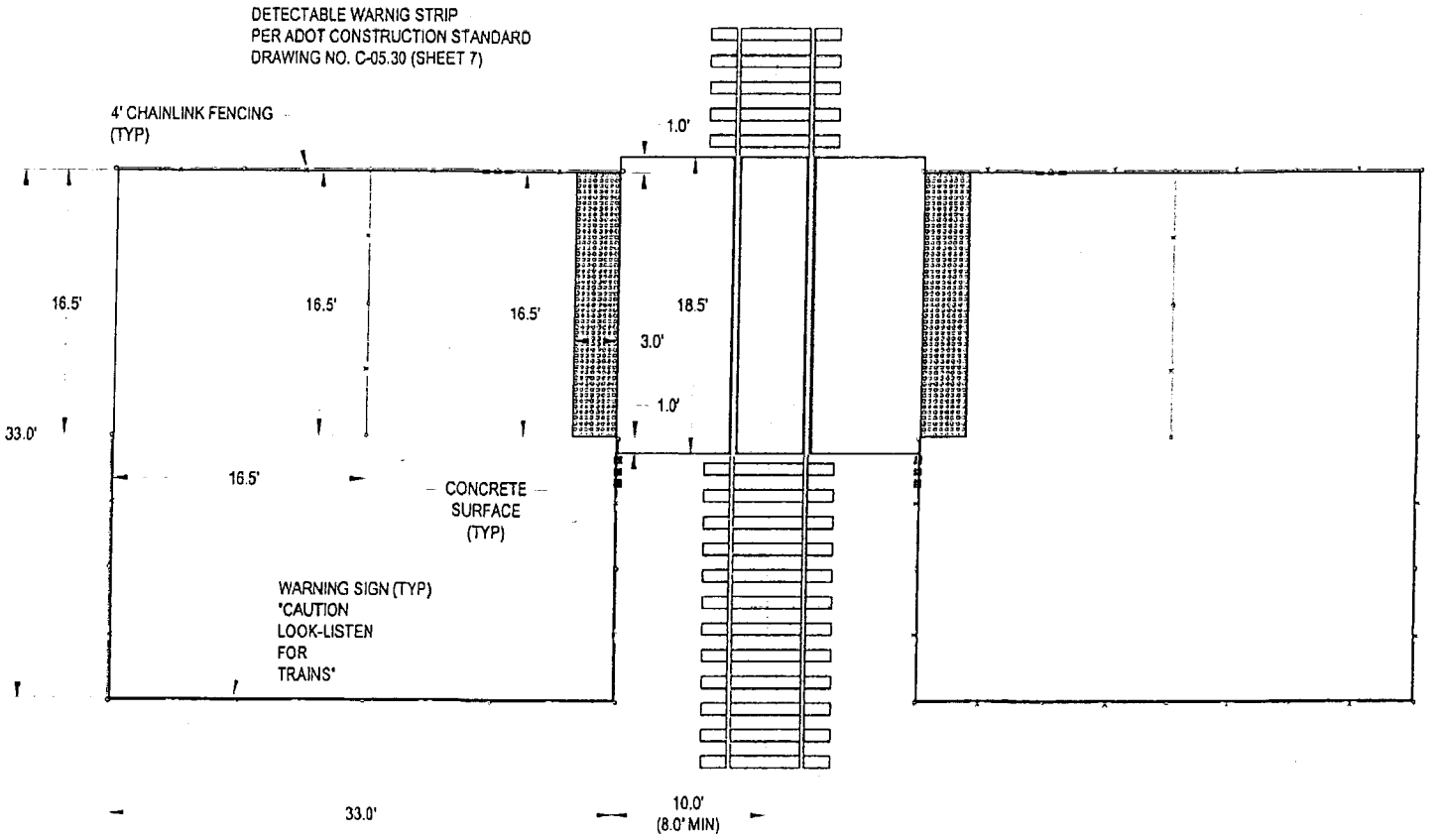
Install concrete sidewalks on both sides of railroad tracks with 4' chainlink fence in a maze configuration.

Concrete to be 2500 psi with fiber mesh and control joints.

Chainlike fence to be 9 gd. Wire standard line poles, and a top rail all corner post to be heavy wall.

Project to be per **EXHIBIT A-2.**

EXHIBIT A-2



PROPOSED PEDESTRIAN/EQUESTRIAN RAILROAD CROSSING MAZE

EXHIBIT B

Type, size and Location Prints for the Structure (Please see the Attachment)

EXHIBIT BA

Certificate of Compliance

for

Domestic Steel and Iron Materials and Products

ADOT Stored Specifications (Subsection 106.15, 2/15/11).
Domestic Materials and Products:

Steel and iron materials and products used on all projects shall comply with the current "Buy America" requirements of 23 CFR 635.410.

All manufacturing processes to produce steel and iron products used on this utility relocation project shall occur in the United States. Raw materials used in manufacturing the steel and iron products may be foreign or domestic. Steel or iron not meeting these requirements may be used in products on this project provided that the invoiced cost to the contractor for such steel products incorporated into the work does not exceed either one-tenth of one percent of the total (final) contract cost or $2,500, whichever is greater.

Any process which involves the application of a coating to iron or steel shall occur in the United States. These processes include epoxy coating, galvanizing, painting, or any other coating which protects or enhances the value of covered material.

The requirements specified herein shall only apply to steel and iron products permanently incorporated into the project. "Buy America" provisions do not apply to temporary steel items, such as sheet piling, temporary bridges, steel scaffolding and falsework, or to materials which remain in place at the contractor's convenience.

The Railroad company shall furnish ADOT with Certificates of Compliance, conforming to the requirements of ADOT Standard Specifications; Subsection 106.05(B), which state that steel or iron products incorporated in the project meet the requirements specified. Certificates of Compliance shall also certify that all manufacturing processes to produce steel or iron products, and any application of a coating to iron or steel, occurred in the United States.

Convict-produced materials may not be used unless the materials were produced prior to July 1, 1991 at a prison facility specifically producing convict-made materials for Federal-aid construction projects.

ADOT Standard Specifications Subsection 106.05 Certificates.
(B) Certificate of Compliance:

A Certificate of Compliance shall contain the following information:

(1) A description of the material supplied.
(2) Quantity of material represented by the certificate.
(3) Means of material identification, such as label, lot number, or marking.
(4) Statement that the material complies in all respects with the requirements of the cited specifications. Certificates shall state compliance with the cited specification, such as AASHTO M 194, ASTM A 588; or specific table or section of the Arizona Department of Transportation Standard Specifications or Special Provisions. Certificates may cite both, if applicable.
(5) The name, title, and signature of a person having legal authority to bind the manufacturer or the supplier of the material. The date of the signature shall also be given. The name and address of the manufacturer or supplier of the material shall be shown on the certificate. A copy or facsimile reproduction will be acceptable. However, the original certificate shall be made available upon request. The person signing the certificate shall be in one of the following categories:
(a) An officer of a corporation.
(b) A partner in a business partnership or an owner.
(c) A general manager.
(d) Any person having been given the authority in writing by one of the three listed above. The manufacturer or supplier may submit a list of those who are authorized to sign certificates. This list shall be submitted under the name, title, and signature of one of the first three listed above. This list will be kept on file for subsequent certificates received on that project.

Each of the first four items specified above shall be completed prior to the signing as defined in item five. No certificate will be accepted that has been altered, added to, or changed in any way after the authorized signature has been affixed to the original certificate. However, notations of a clarifying nature, such as project number, contractor, or quantity shipped are acceptable, provided the basic requirements of the certificate are not affected.

COPPER BASIN RAILWAY, INC.

LICENSE FOR PRIVATE PEDESTRIAN/EQUESTRIAN CROSSING

THIS LICENSE, made as of this 9th day of April 2014, by **Copper Basin Railway Inc.** (Railroad), with office located at P.O. Drawer I, Hayden, Arizona 85135, to Chairman, Board of Supervisors Pinal County (Licensee), whose address is 31 North Pinal Street, Building F, P.O. Box 727, Florence, Arizona 85132.

Railroad hereby grants Licensee (further referred to as Pinal), a non-exclusive license to construct, maintain and use a permanent pedestrian/equestrian up to sixteen & one half (16.5') feet wide called a ("crossing"), constructed of material approved by the Railroad and governing authorities, said Crossing to be located at approximately Railroad Milepost 987.10 in at/in/near Kelvin, AZ.

NOW, THEREFORE, for and in consideration of the mutual covenants, terms, conditions and agreements herein contained, the receipt and sufficiency of which are specifically acknowledged by the parties hereto, the parties do agree as follows:

1. The Crossing shall be used solely by Pinal, Pinal's members or its designees only as a means of ingress and egress to the private property of Licensee or leased property of others or public property adjacent to said Crossing. The Crossing shall not be used by any motorized vehicular traffic (except for specific needs of the handicapped) and shall be governed and/or policed by the Licensee to ensure its members or designees comply with posted procedures required for safe occupancy of Railroad property.

2. No expressed or implied means of ingress and egress or way of necessity upon, across or over adjacent lands of Railroad is granted by this License. Licensee, at their own expense, will secure and maintain any necessary means of ingress and egress to the Crossing across lands of others.

3. Pinal shall not at any time own or claim any right, title or interest in or to Railroad's property occupied by Licensee's Crossing, nor shall the exercise of this License for any length of time give rise to any right, title or interest to Licensee to said property of Railroad, or any right of interest in Licensee other than the license created hereby.

4. Pinal agrees to install device(s) at their sole expense at the designated location of the crossing in this agreement, which adequately prevents all pedestrian traffic from accessing live track when the crossing is occupied by Railroad traffic.

5. All roadways/approaches shall be graded, surfaced and maintained by Licensee so as to ensure safe transition of pedestrians from any roadway/approach to the Railroad.

"LICENSE FOR PRIVATE PEDESTRIAN/EQUESTRIAN CROSSING CONTINUED"

6. Pinal shall be liable to construct, maintain, use and remove the roadway/approaches and appurtenances at Licensee's sole expense so as not to interfere with or obstruct the operation of the Railroad or the use of the Railroad's property or endanger occupants of Railroad property. In addition, Licensee will comply with all federal/state/county requirements for the construction of the crossing and reimburse the Railroad for any taxes levied upon the Licensees' improvements and all other expenses arising from this License.

6.1 Pinal shall be liable to ensure the pedestrian/equestrian crossing and "Historical Gila River Bridge" are not used for unintended purpose(s).

7. The Railroad or Pinal may terminate this License at any time for failure to comply with the articles of this Agreement. Property or improvements remaining upon the Railroad property after termination of this License shall be deemed to be abandoned and may be removed by the Railroad at the cost of Licensee.

8. Pinal, recognizing that Railroad's operation and any use of Railroad property, tracks and right-of-way involves increased risks, expressly assumes and agrees to indemnify and hold harmless Railroad of and from all risk of loss, costs, damages, claims, actions, cause and causes of action, suits, demands or expense (including a reasonable attorneys' fee) ("Damages") to, and waives any right to ask or demand Damages for, Property of Licensee or any part thereof, at Crossing including loss of or interference with service thereof, regardless of cause, including; (a) any fault, failure or negligence of Railroad in construction, operation or maintenance of the Crossing or in rail operations on or over the Crossing or otherwise; and/or (b) any fire, regardless of the source of origin thereof. For this Section, the term "Property of Licensee" shall include property of third parties situated or placed upon Railroad's right-of-way by Licensee or by such third parties with the consent or acknowledgment of Licensee.

8.1 Pinal will protect, indemnify and hold harmless the Railroad its servants, agents, employees, lessees, successors and assigns against and from any and all loss, damages, suits judgments, claims and expenses of every kind, arising from or growing out of, directly or indirectly, (a) the construction, existence, use, condition, maintenance or repair of said crossing: (b) injury to or death of any person whomsoever may enter upon or use said crossing; (c) loss of or damage to property in the possession of any such person while on or about said crossing; (d) any accident or collision at the point of ingress/egress; or (e) the violation by Licensee, or by any of its invitees, of any of the terms or provisions of this License.

P.O. DRAWER I HAYDEN, ARIZONA 85135 (520) 356 7730

"LICENSE FOR PRIVATE PEDESTRIAN/EQUESTRIAN CROSSING CONTINUED"

9. Pinal shall procure and maintain during the life of this agreement General Liability Insurance which will insure the indemnity undertakings herein set forth. Such insurance shall provide coverage of at least $1,000,000 for bodily injury per person and $2,000,000 aggregate bodily injury per accident, and $2,000,000 for property damage. Licensee shall furnish the Railroad with a certificate evidencing that such insurance is in full force and effect and that the same will not be canceled without at least thirty (30) days' advance written notice by the insurance carrier to the Railroad. Licensee will provide a certificate of insurance and an endorsement showing Railroad as an additional insured with waiver of subrogation.

10. Railroad reserves the right to use its property in any manner desired and at any time and shall have the right to use and cross over all improvements constructed upon the property without charge by Licensee.

11. Pinal will provide Railroad adequate advance notice before doing any work on Railroads Right-of-Way.

11.1 All other notices and communications concerning this License shall be addressed to Licensee at the address set forth herein, and to Railroad at the address set forth herein; or at such other address as either party may designate in writing to the other.

11.2 Unless otherwise expressly stated herein, all such notices shall be in writing and sent via Certified or Registered Mail, Return Receipt Requested, or by courier, and shall be effective upon (a) actual receipt of (b) addressee's refusal of delivery.

12. Neither this License nor any provision hereof or agreement or provision included herein by reference shall operate or be construed as being for the benefit of any third person.

13. This License **is not** assignable without the written permission of the Railroad.

P.O. DRAWER I HAYDEN, ARIZONA 85135 (520) 356 7730

"LICENSE FOR PRIVATE PEDESTRIAN/EQUESTRIAN CROSSING CONTINUED"

IN WITNESS WHEREOF, the parties hereto have executed this License in duplicate, each of which shall be evidence of this License but which shall constitute but one agreement, as of the day and year first above written.

Railroad:
Copper Basin Railway Inc.

By: _____

Title: General Superintendent

State of Arizona, County of Pinal
Signed before me on this 12th day of May, 2014,
by Bobby R Blake.

Patti A Goodridge
Notary Public

PATTI A. GOODRIDGE
Notary Public - Arizona
Pinal County
My Commission Expires
August 11, 2015

Licensee:
Chairman, Board of Supervisors Pinal County

By: _____

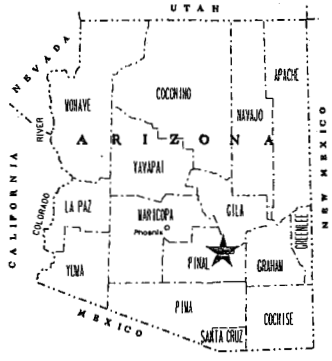
Title: Chairman

State of Arizona, County of Pinal
Signed before me on this 30th day of April, 2014,
by Anthony Smith.

Notary Public

OFFICIAL SEAL
AMBERLEE MUDD
NOTARY PUBLIC - State of Arizona
PINAL COUNTY
My Comm Expires January 13, 2018

P.O. DRAWER I HAYDEN, ARIZONA 85135 (520) 356 7730

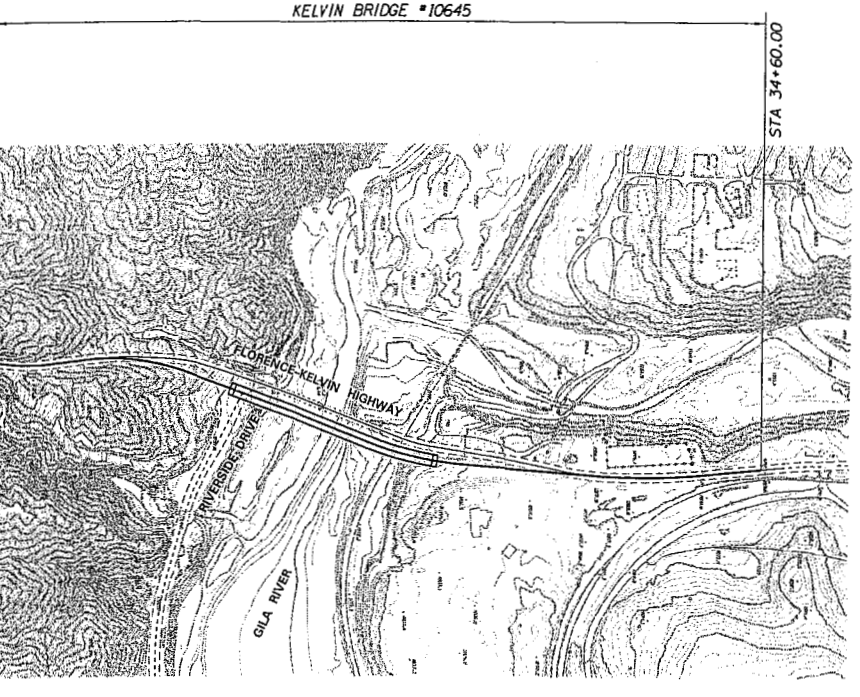


STATE OF ARIZONA
DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION

PROJECT PLANS

STATE HIGHWAY
FLORENCE-KELVIN HIGHWAY
BR-PPN-0(169)A

ADOT



STAGE III DESIGN SUBMITTAL
60% COMPLETE
July, 2013

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
JENNIFER TOTH, P.E., STATE ENGINEER

KELVIN BRIDGE #10645

AS BUILT DATA	AS BUILT DATE	1 OF

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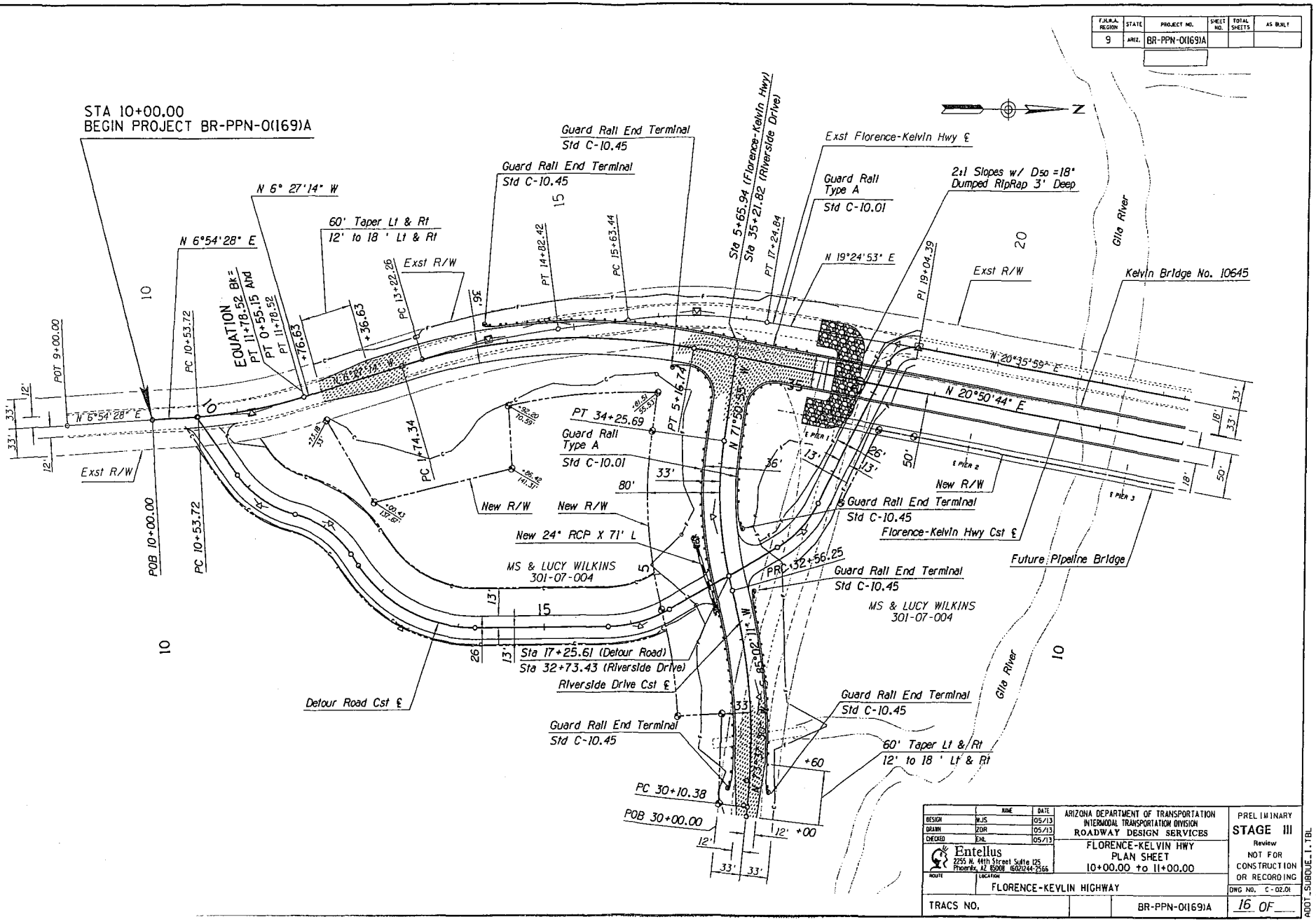


F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

	NAME	DATE
DESIGN	W.J.S.	05/13
DRAWN	ZDR	05/13
CHECKED	EHL	05/13

Entellus
2255 N. 44th Street Suite 125
Phoenix, AZ 85008 (602)244-2566

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

FLORENCE-KELVIN HWY
PLAN SHEET
10+00.00 to 11+00.00

ROUTE | LOCATION
FLORENCE-KEVLIN HIGHWAY

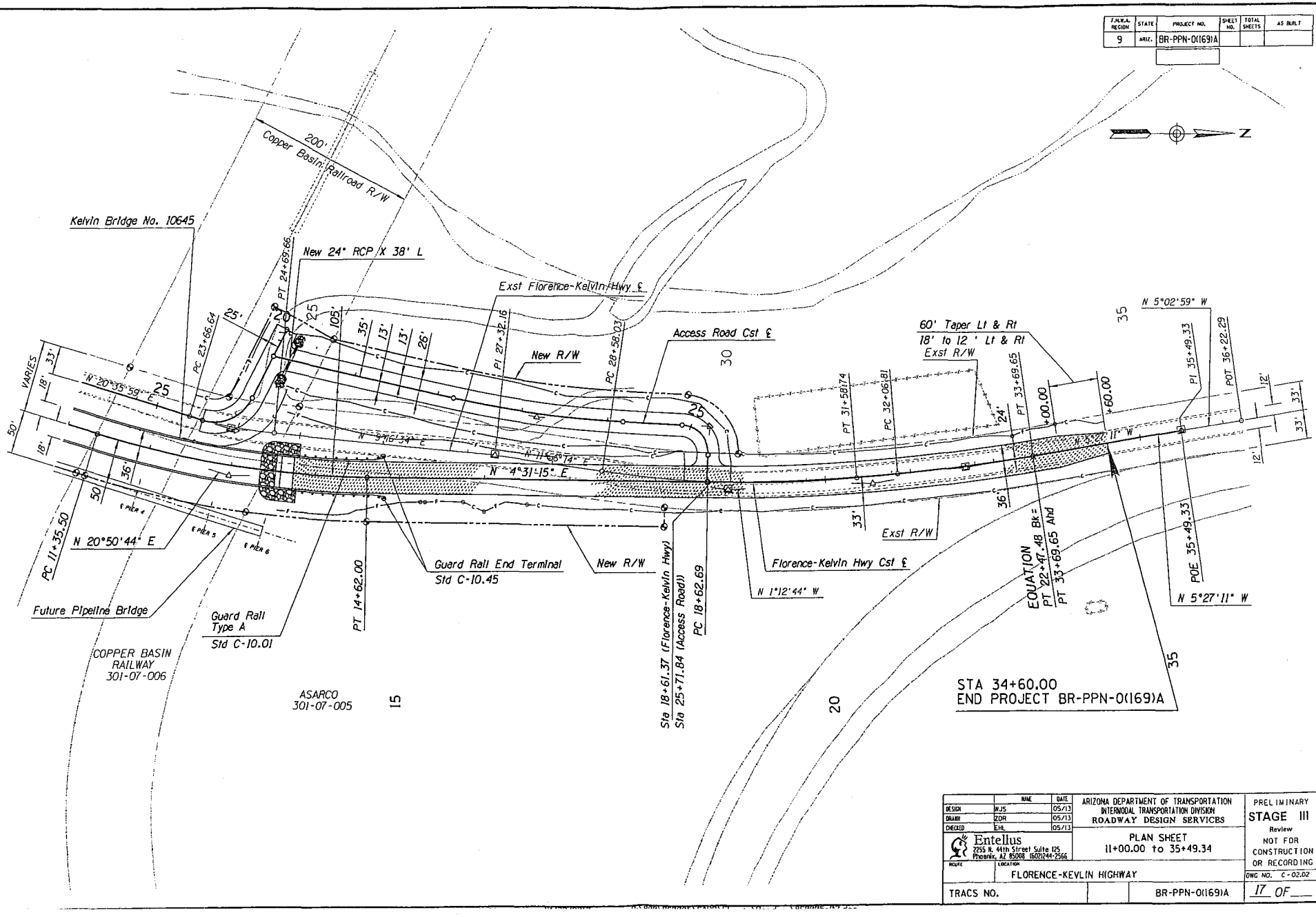
TRACS NO. BR-PPN-0(169)A

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

DWG NO. C-02.01

16 OF

ADOT_SUBDUE_1.TBL



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

	NAME	DATE
DESIGN	WJS	05/13
DRAWN	ZOR	05/13
CHECKED	EHL	05/13

Entellus
2255 N. 44th Street Suite 125
Phoenix, AZ 85008 (602)244-2566

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

PLAN SHEET
11+00.00 to 35+49.34

ROUTE | LOCATION: FLORENCE-KEVLIN HIGHWAY

TRACS NO. | BR-PPN-0(169)A

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

DWG NO. C-02.02

17 OF ___

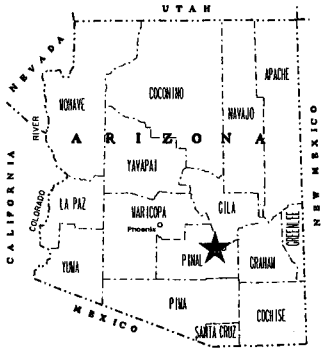
ADOT_SUBDUE_1.TBL

FLORENCE-KELVIN HIGHWAY

AT THE COPPER BASIN RAILWAY & GILA RIVER

Typical Pedestrian Maze
(Proposed Maze Will Be Larger To Accommodate Equine Travel)

Vicinity Map

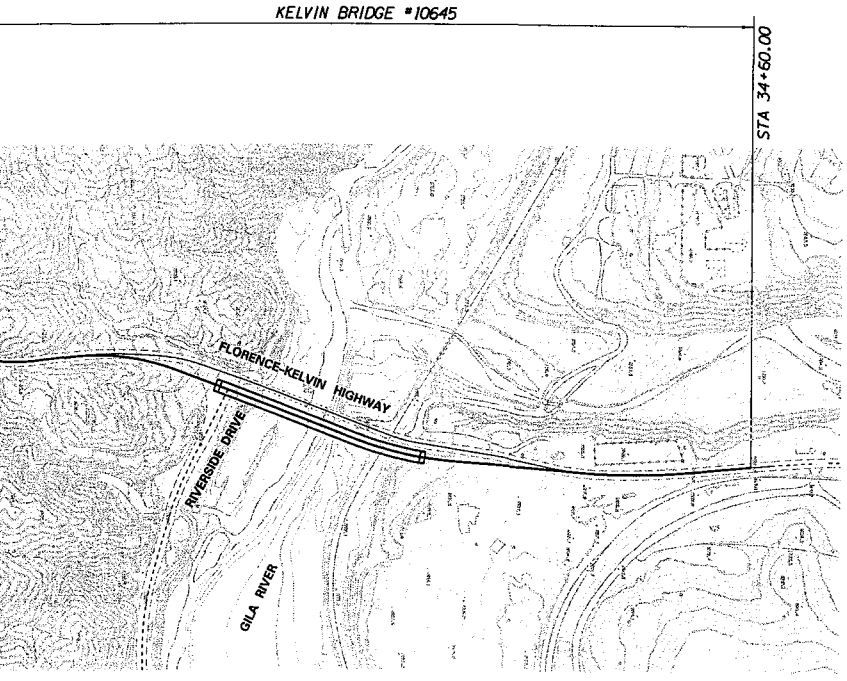


STATE OF ARIZONA
DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION

PROJECT PLANS

STATE HIGHWAY
FLORENCE-KELVIN HIGHWAY
BR-PPN-0(169)A

ADOT



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STAGE III DESIGN SUBMITTAL
60% COMPLETE
July, 2013

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
JENNIFER TOTH, P.E., STATE ENGINEER

AS BUILT | AS BUILT DATE

KELVIN BRIDGE #10645

ADOT STANDARD DRAWINGS
C STANDARDS

ISSUE OR REVISION DATE	STANDARD NO.	SUBJECT
		CONSTRUCTION
5/12	C-01.10 SH 1	SYMBOL LEGEND
5/12	C-01.10 SH 2	SYMBOL LEGEND
5/12	C-01.10 SH 3	SYMBOL LEGEND
5/12	C-01.10 SH 4	SYMBOL LEGEND
5/12	C-01.30 SH 1	GENERAL ABBREVIATIONS
5/12	C-01.30 SH 2	GENERAL ABBREVIATIONS
5/12	C-01.30 SH 3	GENERAL ABBREVIATIONS
5/12	C-02.10	SLOPES, RURAL DIVIDED HIGHWAYS
5/12	C-02.20	SLOPES, RURAL UNDIVIDED AND FRINGE-URBAN HIGHWAYS
5/12	C-02.30	SLOPES, MISCELLANEOUS ROADWAYS
5/12	C-03.10 SH 1	DITCHES, CHANNELS, DIKES AND BERMS, DITCHES AND CHANNELS
5/12	C-03.10 SH 2	DITCHES, CHANNELS, DIKES AND BERMS, DIKES
5/12	C-03.10 SH 3	DITCHES, CHANNELS, DIKES AND BERMS, DITCH DIKE
5/12	C-03.10 SH 4	DITCHES, CHANNELS, DIKES AND BERMS, PIPE BERMS
5/12	C-03.10 SH 5	DITCHES, CHANNELS, DIKES AND BERMS, HEADWALL BERMS
5/12	C-04.10 SH 1	SPILLWAY, EMBANKMENT SINGLE INLET
5/12	C-04.10 SH 2	SPILLWAY, EMBANKMENT DOUBLE INLET
5/12	C-04.20 SH 1	DOWNDRAIN, EMBANKMENT SINGLE INLET
5/12	C-04.20 SH 2	DOWNDRAIN, EMBANKMENT DOUBLE INLET
5/12	C-04.30	SPILLWAY LENGTH TABLE
5/12	C-04.40	DOWNDRAIN LENGTH TABLE
5/12	C-04.50	DOWNDRAIN ENERGY DISSIPATOR
5/12	C-05.10	CURB & GUTTER, CURB, GUTTER
5/12	C-05.12 SH 1	CURB & GUTTER TRANSITIONS
5/12	C-05.12 SH 2	CURB & GUTTER TRANSITIONS
5/12	C-05.12 SH 3	CURB AND GUTTER TRANSITIONS
5/12	C-05.20 SH 1	CONCRETE DRIVEWAYS & SIDEWALKS, DRIVEWAYS
5/12	C-05.20 SH 2	CONCRETE DRIVEWAYS & SIDEWALKS, SIDEWALKS
5/12	C-05.30 SH 1	SIDEWALK RAMP, TYPE A
5/12	C-05.30 SH 2	SIDEWALK RAMP, TYPE B
5/12	C-05.30 SH 3	SIDEWALK RAMP, TYPE C
5/12	C-05.30 SH 4	SIDEWALK RAMP, TYPE D
5/12	C-05.30 SH 5	SIDEWALK RAMP, TYPE E
5/12	C-05.30 SH 6	SIDEWALK RAMP, TYPE F
5/12	C-05.30 SH 7	SIDEWALK RAMP, DETECTABLE WARNING STRIP
5/12	C-05.40	MEDIAN PAVING AND NOSE TAPER
5/12	C-05.50	CONCRETE BUS BAY
5/12	C-06.10 SH 1	DRIVEWAY & TURNOUT LAYOUTS
5/12	C-06.10 SH 2	DRIVEWAY & TURNOUT LAYOUTS
5/12	C-07.01 SH 1	PCCP JOINTS
5/12	C-07.01 SH 2	PCCP JOINTS
5/12	C-07.02	LOAD TRANSFER DOWEL ASSEMBLY
5/12	C-07.03 SH 1	PCCP JOINT LOCATIONS, MAINLINE SKEWED JOINTS
5/12	C-07.03 SH 2	PCCP JOINT LOCATIONS, MAINLINE SKEWED JOINTS
5/12	C-07.03 SH 3	PCCP JOINT LOCATIONS, MAINLINE SKEWED JOINTS
5/12	C-07.03 SH 4	PCCP JOINT LOCATIONS, MAINLINE SKEWED JOINTS
5/12	C-07.03 SH 5	PCCP JOINT LOCATIONS, MAINLINE NON-SKEWED JOINTS
5/12	C-07.03 SH 6	PCCP JOINT LOCATIONS, MAINLINE NON-SKEWED JOINTS
5/12	C-07.03 SH 7	PCCP JOINT LOCATIONS, MAINLINE NON-SKEWED JOINTS
5/12	C-07.03 SH 8	PCCP JOINT LOCATIONS, MAINLINE NON-SKEWED JOINTS
5/12	C-07.04 SH 1	PCCP JOINT LOCATIONS, PARALLEL TYPE ENTRANCE RAMP WITH AUXILIARY LANE
5/12	C-07.04 SH 2	PCCP JOINT LOCATIONS, PARALLEL TYPE EXIT RAMP WITH AUXILIARY LANE
5/12	C-07.04 SH 3	PCCP JOINT LOCATIONS, TAPER TYPE ENTRANCE RAMP
5/12	C-07.04 SH 4	PCCP JOINT LOCATIONS, TAPER TYPE EXIT RAMP
5/12	C-07.04 SH 5	PCCP JOINT LOCATIONS, CROSSROAD AND RAMP TERMINI
5/12	C-07.06	TRENCH BACKFILL AND PAVEMENT REPLACEMENT
5/12	C-08.20	PAVED GORE AREA
5/12	C-10.00	GUARDRAIL MEASUREMENT LIMITS
5/12	C-10.01	GUARDRAIL INSTALLATION, TYPE A AND REFLECTOR TAB
5/12	C-10.02	GUARDRAIL INSTALLATION, TYPE B AND REFLECTOR TAB
5/12	C-10.03	W-BEAM GUARDRAIL, G4(1W) AND G4(2W), BLOCKED-OUT TIMBER POST
5/12	C-10.04	W-BEAM GUARDRAIL, G4(1S), BLOCKED-OUT STEEL POST
5/12	C-10.05 SH 1	W-BEAM GUARDRAIL, G4(MODIFIED) WITH FREEWAY CURB AND GUTTER
5/12	C-10.05 SH 2	W-BEAM GUARDRAIL, G4(MODIFIED) WITH FREEWAY CURB AND GUTTER
5/12	C-10.06 SH 1	W-BEAM GUARDRAIL, NESTED, TYPES 1 AND 2
5/12	C-10.06 SH 2	W-BEAM GUARDRAIL, NESTED, TYPE 3
5/12	C-10.07 SH 1	W-BEAM GUARDRAIL, BOLTED ANCHOR
5/12	C-10.07 SH 2	W-BEAM GUARDRAIL, BOLTED ANCHOR
5/12	C-10.08	W-BEAM GUARDRAIL, END ANCHOR
5/12	C-10.20	THRIE-BEAM GUARDRAIL, G9, BLOCKED-OUT STEEL POST
5/12	C-10.30 SH 1	GUARDRAIL TRANSITION, THRIE BEAM TO CONCRETE HALF BARRIER, 32" TYPE 'F'
5/12	C-10.30 SH 2	GUARDRAIL TRANSITION, THRIE BEAM TO CONCRETE HALF BARRIER, 32" TYPE 'F'
5/12	C-10.40	CONCRETE MEDIAN BARRIER, 32" TYPE 'F', CAST-IN-PLACE
5/12	C-10.41	CONCRETE MEDIAN BARRIER, 42" TYPE 'F', CAST-IN-PLACE
5/12	C-10.42 SH 1	GLARE SCREEN, CONCRETE MEDIAN BARRIER
5/12	C-10.42 SH 2	GLARE SCREEN, CONCRETE MEDIAN BARRIER
5/12	C-10.42 SH 3	GLARE SCREEN, CONCRETE MEDIAN BARRIER
5/12	C-10.50 SH 1	CONCRETE HALF BARRIER, 32" TYPE 'F', CAST-IN-PLACE
5/12	C-10.50 SH 2	CONCRETE HALF BARRIER, 32" TYPE 'F', PRECAST
5/12	C-10.51	CONCRETE HALF BARRIER, 32" TYPE 'F' WITH SIDEWALK
5/12	C-10.52	CONCRETE HALF BARRIER, 32" TYPE 'F' WITH GUTTER
5/12	C-10.53	CONCRETE HALF BARRIER, 42" TYPE 'F' WITH GUTTER
5/12	C-10.54 SH 1	CONCRETE HALF BARRIER, 32" TYPE 'F' AT PIERS, CAST-IN-PLACE
5/12	C-10.54 SH 2	CONCRETE HALF BARRIER, 32" TYPE 'F' AT PIERS, PRECAST
5/12	C-10.54 SH 3	CONCRETE HALF BARRIER, 32" TYPE 'F' AT PIERS, LAYOUT
5/12	C-10.55 SH 1	CONCRETE HALF BARRIER, 42" TYPE 'F' AT PIERS, CAST-IN-PLACE
5/12	C-10.55 SH 2	CONCRETE HALF BARRIER, 42" TYPE 'F' AT PIERS, PRECAST
5/12	C-10.55 SH 3	CONCRETE HALF BARRIER, 42" TYPE 'F' AT PIERS, LAYOUT
5/12	C-10.70 SH 1	CONCRETE HALF-BARRIER TRANSITION TO VERTICAL, 32" TYPE 'F' WITH CAISSONS
5/12	C-10.70 SH 2	CONCRETE HALF-BARRIER TRANSITION TO VERTICAL, 32" TYPE 'F' WITH CAISSONS
5/12	C-10.70 SH 3	CONCRETE HALF-BARRIER TRANSITION TO VERTICAL, 32" TYPE 'F' WITH CAISSONS

ISSUE OR REVISION DATE	STANDARD NO.	SUBJECT
		CONSTRUCTION
5/12	C-10.71 SH 1	CONCRETE HALF-BARRIER TRANSITION TO VERTICAL, 32" TYPE 'F' WITH CURB & GUTTER
5/12	C-10.71 SH 2	CONCRETE HALF-BARRIER TRANSITION TO VERTICAL, 32" TYPE 'F' WITH CURB & GUTTER
5/12	C-10.72 SH 1	CONCRETE HALF-BARRIER TRANSITION TO VERTICAL, 42" TO 32" TYPE 'F' WITH CAISSONS
5/12	C-10.72 SH 2	CONCRETE HALF-BARRIER TRANSITION TO VERTICAL, 42" TO 32" TYPE 'F' WITH CAISSONS
5/12	C-10.72 SH 3	CONCRETE HALF-BARRIER TRANSITION TO VERTICAL, 42" TO 32" TYPE 'F' WITH CAISSONS
5/12	C-10.73 SH 1	CONCRETE HALF-BARRIER TRANSITION TO VERTICAL, 42" TO 32" TYPE 'F' WITH GUTTER
5/12	C-10.73 SH 2	CONCRETE HALF-BARRIER TRANSITION TO VERTICAL, 42" TO 32" TYPE 'F' WITH GUTTER
5/12	C-10.74	CONCRETE HALF-BARRIER TRANSITION, 42" TO 32" TYPE 'F'
5/12	C-10.75 SH 1	CONCRETE HALF-BARRIER TRANSITION, TYPE 'F', TANGENT DEPARTURE TYPE 1
5/12	C-10.75 SH 2	CONCRETE HALF-BARRIER TRANSITION, TYPE 'F', TANGENT DEPARTURE TYPE 2
5/12	C-10.76	CONCRETE HALF-BARRIER TRANSITION, TYPE 'F' AT RADIUS, 32" TO 0"
5/12	C-10.77	CONCRETE HALF-BARRIER TRANSITION, END TERMINAL CURB AND GUTTER
5/12	C-11.10 SH 1	ROADWAY CATTLE GUARD
5/12	C-11.10 SH 2	ROADWAY CATTLE GUARD
5/12	C-11.10 SH 3	ROADWAY CATTLE GUARD
5/12	C-11.10 SH 4	ROADWAY CATTLE GUARD
5/12	C-11.20	CATTLE GUARD, DRAINAGE
5/12	C-12.10 SH 1	FENCE, WOVEN WIRE
5/12	C-12.10 SH 2	FENCE, BARBED WIRE
5/12	C-12.10 SH 3	FENCE, TYPES 1 AND 2 GATES, FLOOD GATE
5/12	C-12.10 SH 4	FENCE, FLOOD GATE INSTALLATION
5/12	C-12.10 SH 5	FENCE, MISCELLANEOUS DETAILS
5/12	C-12.20 SH 1	FENCE, CHAIN LINK, TYPE 1
5/12	C-12.20 SH 2	FENCE, CHAIN LINK, TYPE 2
5/12	C-12.20 SH 3	FENCE, CHAIN LINK, GATES
5/12	C-12.30 SH 1	FENCE, CHAIN LINK CABLE BARRIER
5/12	C-12.30 SH 2	FENCE, CHAIN LINK CABLE BARRIER
5/12	C-12.30 SH 3	FENCE, CHAIN LINK CABLE BARRIER
5/12	C-13.10 SH 1	PIPE CULVERT INSTALLATION
5/12	C-13.10 SH 2	PIPE CULVERT INSTALLATION
5/12	C-13.15	TYPICAL PIPE INSTALLATION
5/12	C-13.20	PIPE, REINFORCED CONCRETE END SECTION
5/12	C-13.25	PIPE, CORRUGATED METAL END SECTION
5/12	C-13.30	PIPE AND PIPE ARCH, CORRUGATED METAL, CONCRETE INVERT PAVING
5/12	C-13.55	PIPE, CATTLE-VEHICLE PASS, MITERED END TREATMENT
5/12	C-13.60	SLOTTED DRAIN DETAILS
5/12	C-13.65	SLOTTED DRAIN INSTALLATION DETAILS
5/12	C-13.70	STORM DRAIN CONNECTION DETAILS
5/12	C-13.75	STORM DRAIN OUTLET BARRIER GATE
5/12	C-13.76	STORM DRAIN OUTLET AND STORM DRAIN PLUG
5/12	C-13.80	PIPE COLLAR DETAILS
5/12	C-15.10	CATCH BASIN, TYPE 1
5/12	C-15.20 SH 1	CATCH BASIN, TYPE 3
5/12	C-15.20 SH 2	CATCH BASIN, TYPE 3
5/12	C-15.20 SH 3	CATCH BASIN, ACCESS FRAME AND COVER DETAILS
5/12	C-15.30	CATCH BASIN, TYPE 4
5/12	C-15.40 SH 1	CATCH BASIN, TYPE 5
5/12	C-15.40 SH 2	CATCH BASIN, TYPE 5
5/12	C-15.50	CATCH BASIN, FRAME AND GRATE
5/12	C-15.70 SH 1	CATCH BASIN, MISCELLANEOUS DETAILS
5/12	C-15.70 SH 2	CATCH BASIN, MISCELLANEOUS DETAILS
5/12	C-15.75	CATCH BASIN, DROP INLET
5/12	C-15.80	CATCH BASIN, FLUSH
5/12	C-15.81	CATCH BASIN, SIDE SLOPE
5/12	C-15.90	CATCH BASIN, MEDIAN DIKE, PRECAST
5/12	C-15.91 SH 1	FREEWAY CATCH BASIN DETAILS
5/12	C-15.91 SH 2	FREEWAY CATCH BASIN DETAILS
5/12	C-15.92 SH 1	CATCH BASIN WITH TYPE 'F' CONCRETE HALF BARRIER
5/12	C-15.92 SH 2	CATCH BASIN WITH TYPE 'F' CONCRETE HALF BARRIER
5/12	C-16.40	IRRIGATION SLEEVES
5/12	C-17.10	RAIL BANK PROTECTION FOR DRAINAGEWAYS, TYPES 1, 2 & 3
5/12	C-17.15	RAIL BANK PROTECTION AT ABUTMENTS, TYPES 4, 5 & 6
5/12	C-17.20	BANK PROTECTION FOR DRAINAGEWAYS, TYPES 7, 8 & 9
5/12	C-18.10 SH 1	MANHOLE, RISER DETAILS
5/12	C-18.10 SH 2	MANHOLE, BASE DETAILS, NORMAL INSTALLATION
5/12	C-18.10 SH 3	MANHOLE, FRAME AND COVER DETAILS
5/12	C-19.10 SH 1	FORD, CONCRETE WALLS
5/12	C-19.10 SH 2	FORD, TYPES 1 AND 2
5/12	C-21.10	SURVEY MONUMENT FRAME AND COVER
5/12	C-21.20	SURVEY MARKER

REV.: 05/12

ADOT STANDARD DRAWINGS REVISION DATES and STANDARD NO.'s REVIEW		
	NAME	DATE
CONSTRUCTION Standards		
PROJECT NO. BR-PPN-0(169)A	1A	OF

ADOT STANDARD DRAWINGS

TRAFFIC SIGNING & MARKING STANDARDS
EFFECTIVE AUGUST 2011

REVISION	STANDARD	SUBJECT: SIGNING & MARKING DETAILS
2/02	M-1	CURB MARKINGS FOR RAISED MEDIAN & ISLANDS
2/04	M-2 SHT 1	INTERSECTION STRIPING
2/02	M-2 SHT 2	INTERSECTION STRIPING
2/02	M-2 SHT 3	CENTERLINE & REVERSE CURVE DETAILS
2/02	M-3	STRIPING AND DELINEATION FOR FREEWAY TERMINALS
10/10	M-4	PASSING LANE STRIPING DETAILS
2/02	M-5	*RAILROAD PAVEMENT MARKINGS*
2/02	M-6	WORD MARKINGS
2/02	M-7	*PAVEMENT LETTERS*
2/02	M-8	PAVEMENT LETTERS
2/02	M-9	PAVEMENT NUMBERS
9/08	M-10 SHT 1	PAVEMENT MARKING SYMBOLS
9/08	M-10 SHT 2	PAVEMENT MARKING SYMBOLS
9/08	M-10 SHT 3	PAVEMENT MARKING SYMBOLS
3/05	M-11	TURN LANE PAVEMENT MARKINGS
10/10	M-12	FREEWAY PAVEMENT ARROWS
2/02	M-13	PREFERENTIAL LANE PAVEMENT MARKINGS
1/10	M-14	*STRIPING AND DELINEATION FOR TRUCK ESCAPE RAMPS*
1/10	M-15 SHT 1	PAVEMENT MARKING FOR FREEWAY ENTRANCE RAMP - TAPERED ACCELERATION LANE
1/10	M-15 SHT 2	PAVEMENT MARKING FOR FREEWAY ENTRANCE RAMP - PARALLEL ACCELERATION LANE
10/10	M-15 SHT 3	PAVEMENT MARKING FOR FREEWAY ENTRANCE RAMP - PARALLEL ACCELERATION LANE WITH HOV BYPASS
1/10	M-16 SHT 1	PAVEMENT MARKING FOR *FREEWAY EXIT RAMPS* - TAPERED DECELERATION LANE
1/10	M-16 SHT 2	PAVEMENT MARKING FOR FREEWAY EXIT RAMP - *PARALLEL DECELERATION LANE*
1/10	M-17	FREEWAY LANE DROP PAVEMENT MARKINGS
6/08	M-18	*RECESSED PAVEMENT MARKER DETAILS*
6/08	M-19 SHT 1	RAISED PAVEMENT MARKER PLAN LEGEND
6/08	M-19 SHT 2	NON-REFLECTIVE RAISED *PAVEMENT MARKER DETAILS*
6/08	M-19 SHT 3	RETRO-REFLECTIVE RAISED PAVEMENT MARKER DETAILS
6/08	M-19 SHT 4	RETRO-REFLECTIVE RAISED PAVEMENT MARKER DETAILS
6/08	M-19 SHT 5	PAVEMENT MARKING DETAILS FOR UNDIVIDED HIGHWAYS
6/08	M-19 SHT 6	SERIES 40 RETRO-REFLECTIVE RAISED PAVEMENT MARKERS *(RRPM)* FOR UNDIVIDED HIGHWAYS
6/08	M-19 SHT 7	SERIES 80 RETRO-REFLECTIVE RAISED PAVEMENT MARKERS (RRPM) FOR UNDIVIDED HIGHWAYS
6/08	M-19 SHT 8	TYPICAL MARKING DETAILS FOR EDGELINE PAVEMENT MARKERS
6/08	M-19 SHT 9	TYPICAL MARKING DETAILS FOR LANE DROP & *INTERSECTION GUIDE STRIPING*
6/08	M-19 SHT 10	PAVEMENT MARKING CROSS-SECTION DETAILS FOR HIGHWAYS
2/02	M-20 SHTS 1 & 2	CHIP SEAL MARKER USAGE FOR TEMPORARY MARKERS
10/10	*M-21*	TRANSVERSE RUMBLE STRIP DETAILS
9/08	M-22 SHT 1	CONTINUOUS LONGITUDINAL RUMBLE STRIP GROOVE, PATTERN & LOCATION DETAILS
9/08	M-22 SHT 2	LONGITUDINAL RUMBLE STRIP EXCEPTION DETAILS
12/08	M-23 SHTS 1 & 2	OBJECT MARKER *DETAILS*
5/03	M-24	OBJECT MARKER PLACEMENT DETAILS
8/11	M-26 SHT 1	DELINEATOR PLACEMENT AND SPACING
8/11	M-26 SHT 2	DELINEATOR PLACEMENT AND SPACING
10/10	M-27	DELINEATION DETAILS FOR MEDIAN CROSSOVERS
2/02	M-28	CURVE TREATMENT - CHEVRONS
9/06	M-29	OFF-MAINLINE REFERENCE MARKER LOCATION DETAIL
11/04	M-30	*OFF-MAINLINE REFERENCE* MARKER DETAILS
2/04	M-31	*SNOW MARKER DETAILS*
5/03	M-32	*BRIDGE AND BARRIER MARKER DETAILS*
5/03	M-33	BRIDGE & BARRIER MARKER PLACEMENT & INSTALLATION DETAILS
4/05	M-34	GUARDRAIL *EXTRUDER TERMINAL DELINEATION DETAILS*
2/02	M-35	OBJECT MARKER FOR SAND BARREL CRASH CUSHION
8/11	M-36	FLEXIBLE DELINEATOR ASSEMBLIES

REVISION	STANDARD	SUBJECT: SIGNING & MARKING DETAILS
8/11	M-37	DELINEATORS IN-GROUND FOUNDATION DETAILS
1/10	M-38	SQUARE STEEL POST BREAK-AWAY DELINEATOR
8/04	S-1 SHT 1	SQUARE TUBE SIGN POST SELECTION CHARTS
5/06	S-1 SHT 2	PERFORATED SIGN POST FOUNDATION
5/03	S-1 SHT 3	*PERFORATED* SIGN POST FOUNDATION
10/10	S-2 SHT 1	S&W SHAPE POST SELECTION CHART (BREAKAWAY SIGN POST DESIGN)
10/10	S-2 SHT 2	S&W SHAPE POST SELECTION CHART (SPECIAL WIND REGIONS) (BREAKAWAY SIGN POST DESIGN)
10/10	S-3 SHT 1	*OFFSETS, CLEARANCES, & MOUNTING DETAILS FOR GUIDE SIGNS &* BREAKAWAY POST INSTALLATION
10/10	S-3 SHT 2	OFFSETS, CLEARANCES, & MOUNTING *DETAILS FOR WARNING,* REGULATORY & MARKER SIGN ON FREEWAYS
1/10	S-3 SHT 3	OFFSETS, CLEARANCES, & MOUNTING DETAILS FOR SIGNS *ON NON-*FREEWAYS RAMPS AND CROSSROADS
1/10	S-3 SHT 4	OFFSETS, CLEARANCES, & MOUNTING DETAILS FOR SQUARE TUBE POSTS
10/10	S-4	*W SHAPE TENSION FUSE PLATE AND HINGE DETAILS*
8/11	S-5	BREAKAWAY POST DETAILS FOR W SHAPE GUIDE SIGNS
8/11	S-6	BREAKAWAY POST *DETAILS S4x7.7*
6/06	S-7	AUXILIARY SIGN INSTALLATION DETAILS
8/06	S-8 SHT 1	ALUMINUM EXTRUSION *SIGN PANEL DETAILS*
8/11	S-8 SHT 2	ALUMINUM EXTRUSION EXIT PANEL DETAIL
8/06	S-8 SHT 3	ALUMINUM EXTRUSION PANEL INSTALLATION DETAIL ON BREAKAWAY POSTS
8/06	S-8 SHT 4	ALUMINUM EXTRUSION SIGN INSTALLATION DETAIL TO PERFORATED POSTS
2/02	S-9 SHTS 1, 2 & 3	SIGN INSTALLATION ON POLE
5/04	S-10 SHT 1	*FREEWAY MILEPOST DETAILS*
5/04	S-10 SHT 2	NON-FREEWAY MILEPOST DETAILS
7/04	S-11 SHT 1	*TAPERED TUBE SIGN STRUCTURE*
7/04	S-11 SHT 2	TAPERED TUBE SIGN STRUCTURE
7/04	S-11 SHT 3	TAPERED TUBE SIGN STRUCTURE
7/04	S-11 SHT 4	TAPERED TUBE SIGN STRUCTURE
2/08	S-12 SHT 1	ARROWS FOR USE ON FREEWAY *MAINLINE AND OVERHEAD GUIDE SIGNS*
2/08	S-12 SHT 2	ARROWS FOR USE ON GROUND MOUNT GUIDE SIGNS ON CONVENTIONAL ROADWAYS, RAMPS, AND CROSSROADS
2/08	S-13	SIGN IDENTIFICATION DETAILS
4/06	S-14 SHT 1	INSTALLATION OF ROTATING OPEN/CLOSED SIGN
4/06	S-14 SHT 2	INSTALLATION *OF ROTATING OPEN/CLOSED* SIGN
4/06	S-14 SHT 3	INSTALLATION OF ROTATING OPEN/CLOSED SIGN
4/07	S-15 SHT 1	DUDLEY FOLDING SIGN
4/07	S-15 SHT 2	DUDLEY FOLDING SIGN
2/02	C-1	SAND BARREL CRASH CUSHION
2/02	C-2	SAND BARREL CRASH CUSHION TYPICAL INSTALLATION
12/06	C-3 SHT 1	*PRECAST CONCRETE BARRIER PIN AND LOOP ASSEMBLY NCHRP 350* APPROVED DESIGN
12/06	C-3 SHT 2	*PRECAST CONCRETE BARRIER PIN AND LOOP ASSEMBLY NCHRP 350* APPROVED DESIGN
2/02	C-4 SHT 1	MEDIAN CROSSOVER
2/02	C-4 SHT 2	TYPICAL END TREATMENTS FOR DETOURS USING TEMPORARY CONCRETE BARRIER (TCB)
10/02	C-5 SHT 1	APPROACH PLATE AND TRANSITION SECTION FOR TEMPORARY CONCRETE BARRIER
10/02	C-5 SHT 2	APPROACH PLATE AND TRANSITION SECTION FOR TEMPORARY CONCRETE BARRIER

NO.	DESCRIPTION OF REVISION	DATE	MADE BY
NO.7	DESCRIPTION OF REVISION: REMOVED M-21 SHT 1 & REVISED M-26 SHT 1 & SHT 2, REVISED M-36 TO M-21.15-15.16 SHT 2.	10/10	L. LOPEZ
NO.6	DESCRIPTION OF REVISION: REVISED M-10 SHT 1, SHT 2 & SHT 3, M-15 SHT 1, SHT 2 & SHT 3, M-16 SHT 1 & SHT 2, M-19 SHT 1, SHT 2, SHT 3, SHT 4, SHT 5, SHT 6, SHT 7, SHT 8, SHT 9, SHT 10, M-21.15-15.16 SHT 1, M-22 SHT 1, M-23 SHT 1 & SHT 2, M-26 SHT 1 & SHT 2 & M-36	9/10	L. LOPEZ

ADOT STANDARD DRAWINGS REVISION DATES and STANDARD NO.'s REVIEW		
SIGNING & MARKING STANDARDS	NAME	DATE
PROJECT NO. BR-PPN-0(169)A	18	OF

ADOT STANDARD DRAWINGS

TRAFFIC SIGNAL AND LIGHTING STANDARDS
(SHEET 1 OF 2)
EFFECTIVE DECEMBER 2012

REVISION DATE	STANDARD NUMBER		SUBJECT: TRAFFIC SIGNALS AND LIGHTING DETAILS
	T. S. 0		**ABBREVIATIONS, SYMBOLS AND DEFINITIONS**
03/10	0-1		STANDARD ABBREVIATIONS
01/12	0-2	SHT 1	PLAN SYMBOLS
01/12	0-2	SHT 2	PLAN SYMBOLS
01/12	0-2	SHT 3	PLAN SYMBOLS
03/10	0-3	SHT 1	STANDARD DEFINITIONS
03/10	0-3	SHT 2	STANDARD DEFINITIONS
03/10	0-4		REFERENCE DOCUMENTS AND GENERAL REQUIREMENTS
	T. S. 1		**PULL BOXES**
09/11	1-1	SHT 1	LIGHT DUTY - LIGHT WEIGHT NO. 5 AND NO. 7 PULL BOX
09/11	1-1	SHT 2	LIGHT DUTY - LIGHT WEIGHT NO. 5 AND NO. 7 SLOPE WALL BODY PULL BOX DETAILS
09/11	1-2		HEAVY DUTY NO. 5 AND NO. 7 STRAIGHT BODY WALL PULL BOX DETAILS
09/11	1-3		REPLACEMENT LID SIZING FOR EXISTING NO. 5 AND NO. 7 PULL BOXES
09/11	1-4	SHT 1	TYPICAL PULL BOX INSTALLATION AND WIRING DETAILS
09/11	1-4	SHT 2	TYPICAL PULL BOX INSTALLATION AND WIRING DETAILS
09/11	1-4	SHT 3	TYPICAL PULL BOX INSTALLATION DETAILS
09/11	1-5	SHT 1	ELECTRICAL CONDUIT COVER AND TRENCH REQUIREMENTS
09/11	1-5	SHT 2	CONDUIT EXPANSION COUPLINGS
09/11	1-6		CONDUCTOR REQUIREMENTS
03/10	1-7		TRAFFIC SIGNAL IMSA CABLE COLOR CODES
09/11	1-8	SHT 1	FRONT OF BARRIER JUNCTION BOX
09/11	1-8	SHT 2	BACK OF BARRIER JUNCTION BOX
09/11	1-9		TOP OF BARRIER JUNCTION BOX DETAILS
09/11	1-10		TOP OF BARRIER JUNCTION BOX DETAILS
09/11	1-11	SHT 1	HEAVY DUTY LIGHTING NO. 4 AND NO. 6 PULL BOX
09/11	1-11	SHT 2	HEAVY DUTY LIGHTING NO. 4 AND NO. 6 PULL BOX
09/11	1-11	SHT 3	HEAVY DUTY LIGHTING NO. 4 AND NO. 6 PULL BOX LID
09/11	1-11	SHT 4	HEAVY DUTY LIGHTING NO. 4 AND NO. 6 PULL BOX LID
	T. S. 2		**FOUNDATIONS**
03/10	2-1		FOUNDATION FOR TYPE II LOAD CENTER CABINET
03/10	2-2		FOUNDATION FOR TYPE IV LOAD CENTER CABINET
03/10	2-3		FOUNDATION FOR TYPE III CONTROL CABINET
03/10	2-4		FOUNDATION FOR TYPE IV AND V CONTROL CABINETS
03/10	2-5		FOUNDATION FOR TYPE 340 CONTROL CABINET
03/10	2-6		METER PEDESTAL CABINET FOUNDATION AND BASE
03/10	2-7		TRAFFIC SIGNAL UPS CABINET FOUNDATION DETAIL
	T. S. 3		**CABINETS**
12/12	3-0		NOTES FOR TYPE II AND IV LOAD CENTER CABINETS
03/10	3-1		TYPE II LOAD CENTER CABINET
03/10	3-2		TYPE IV LOAD CENTER CABINET
03/10	3-3		TYPE II OR IV LOAD CENTER CABINET WIRING DETAILS 240/480 3W W/DISCONNECT
03/10	3-4	SHT 1	PHOTO ELECTRIC CELL MOUNTING DETAILS
03/10	3-4	SHT 2	PHOTO ELECTRIC CELL MOUNTING DETAILS
03/10	3-5	SHT 1	TYPE I AND II METER PEDESTAL CABINET
12/12	3-5	SHT 2	METER PEDESTAL CABINET
03/10	3-6		TYPE III CONTROL CABINET
03/10	3-7		POLE MOUNTED TYPE III CONTROL CABINET
03/10	3-8	SHT 1	POLE MOUNT DETAILS FOR TYPE III CONTROL CABINET
03/10	3-8	SHT 2	POLE MOUNT DETAILS FOR TYPE III CONTROL CABINET
03/10	3-9	SHT 1	TYPE IV AND V CONTROL CABINET NOTES
03/10	3-9	SHT 2	TYPE IV CONTROL CABINET
03/10	3-9	SHT 3	TYPE V CONTROL CABINET
03/10	3-10		CABINET EXTENSION OR ELEVATOR BASE
03/10	3-11		CONTROL CABINET MOUNTED SERVICE ENCLOSURE
03/10	3-12	SHT 1	120/240 OR 240/480 VOLT, SINGLE PHASE UTILITY PULL SECTION AND SERVICE DISCONNECT DETAILS
03/10	3-12	SHT 2	120/240 OR 240/480 VOLT, SINGLE PHASE UTILITY PULL SECTION AND SERVICE DISCONNECT DETAILS
03/10	3-13	SHT 1	TRAFFIC SIGNALS AND LIGHTING MODEL 345 CABINET DETAILS
03/10	3-13	SHT 2	TRAFFIC SIGNALS AND LIGHTING MODEL 345 CABINET DETAILS
03/10	3-13	SHT 3	TRAFFIC SIGNALS AND LIGHTING MODEL 345 CABINET CAGE DETAILS

REVISION DATE	STANDARD NUMBER		SUBJECT: TRAFFIC SIGNALS AND LIGHTING DETAILS
	T. S. 4		**POLES AND POSTS**
03/10	4-1		TYPE "A" POLE
03/10	4-2		TYPE "E" POLE
03/10	4-3		TYPE "F" POLE
03/10	4-4		TYPE "G" POLE
03/10	4-5		ALUMINUM TYPE "G" POLE
03/10	4-6		ALUMINUM TYPE "H" POLE
03/10	4-7		ALUMINUM TYPE "I" POLE
03/10	4-8		TYPE "J" POLE
03/10	4-9		TYPE "K" POLE
03/10	4-10		TYPE "O" POLE
03/10	4-11		TYPE "R" POLE
03/10	4-12		TYPE "S" POLE
03/10	4-13		ALUMINUM TYPE "S" POLE
03/10	4-14	SHT 1	TYPE "T" POLE
03/10	4-14	SHT 2	TYPE "S" AND "T" STEEL TWIN LUMINAIRE MOUNTING BRACKET AND EXTENSIONS
03/10	4-15		ALUMINUM TYPE "T" POLE
03/10	4-16		TYPE "U" POLE ELLIPTICAL BASE DETAILS
03/10	4-17	SHT 1	TYPE "U" POLE SQUARE BASE
03/10	4-17	SHT 2	TYPE "U" POLE ROUND POLE / SQUARE BASE
03/10	4-17	SHT 3	TYPE "U" POLE ROUND POLE / SQUARE BASE
03/10	4-17	SHT 4	TYPE "U" POLE ROUND POLE / SQUARE BASE
03/10	4-17	SHT 5	TYPE "U" POLE ROUND POLE / SQUARE BASE
03/10	4-17	SHT 6	TYPE "V" POLE AND 60' OR 65' MAST ARM
03/10	4-18		TYPE "W" POLE AND 60' OR 65' MAST ARM
03/10	4-19		POLE HAND HOLE DETAIL
03/10	4-20		EQUIPMENT MOUNTING HEIGHT DETAILS
03/10	4-21		PEDESTRIAN PUSH BUTTON POST "TYPE PB POLE"
12/12	4-22		POLE FOUNDATION ANCHOR BOLTS
03/10	4-23		STEEL MAST ARM DETAILS LUMINAIRE AND SIGNAL ARMS TO 20'
03/10	4-26		ALUMINUM TRUSS ARM DETAILS TYPE G, H, AND I POLES
03/10	4-27		SIGNAL MAST ARM CONNECTION DETAIL TYPE J AND O POLES
03/10	4-28		SIGNAL MAST ARM CONNECTION DETAIL TYPE K AND R POLES
03/10	4-29		MAST ARM CONNECTION DETAIL TYPE V AND W POLES
03/10	4-30		SIGNAL MAST ARM TENON DETAIL
03/10	4-31		TYPICAL HIGHWAY LIGHTING OFFSETS IN CUT AND FILL SECTIONS
12/12	4-32		
	T. S. 5		**POLE BASES - SPECIAL**
12/12	5-0		TYPE 2 AND 3 CAST ALUMINUM BREAK-AWAY BASES
12/12	5-1		TYPE 2 CAST ALUMINUM BREAK-AWAY BASE
12/12	5-2		TYPE 3 CAST ALUMINUM BREAK-AWAY BASE
12/12	5-3		INSTALLATION DETAILS FOR POLE FOUNDATIONS WITH TYPE 2 AND 3 BREAK-AWAY BASE
	T. S. 6		**HIGHWAY TRAFFIC DATA DETECTORS**
03/10	6-1		TYPE C VEHICLE DETECTOR LOOPS FOR TRAFFIC COUNTERS
03/10	6-2	SHT 1	TYPE SA AND SB SPEED/VEHICLE CLASSIFICATION SYSTEMS
03/10	6-2	SHT 2	TYPE SA SPEED/VEHICLE CLASSIFICATION SYSTEMS
03/10	6-2	SHT 3	TYPE SB SPEED/VEHICLE CLASSIFICATION SYSTEMS
12/12	6-3		PIEZOELECTRIC WEIGHT SENSOR AND LOOP LANE LAYOUT
12/12	6-4	SHT 1	DETECTOR LOOPS AND PIEZOELECTRIC SENSOR DETAILS
12/12	6-4	SHT 2	DETECTOR LOOPS AND PIEZOELECTRIC SENSOR DETAILS
12/12	6-4	SHT 3	DETAIL A PIEZOELECTRIC SENSOR DETAILS
12/12	6-4	SHT 4	DETAIL B DETECTOR LOOP DETAILS
12/12	6-4	SHT 5	DETECTOR LOOPS AND PIEZOELECTRIC SENSOR DETAILS
03/10	6-5		MICROLOOPS FOR SPEED/VEHICLE CLASSIFICATION
03/10	6-6		QUARTZ PIEZOELECTRIC WEIGHT SENSOR AND LOOP LANE LAYOUT
03/10	6-7		TRAFFIC DATA COLLECTION CABINET INSTALLATION DETAILS
03/10	6-8		TYPE MPD CABINET POLE, BASE AND FOUNDATION INSTALLATION DETAILS

NO.	DESCRIPTION OF REVISION	MADE BY	DATE	NO.	DESCRIPTION OF REVISION	MADE BY	DATE
	REVISED STANDARDS 1-5, 1-7 SHT 2, 1-12, 4-30, 1-13, 5-1, 5-2, 5-3, 6-1, 6-2, 6-4	L. LOPEZ	12/12			C. COE	12/12

ADOT STANDARD DRAWINGS REVISION DATES and STANDARD NO.'s REVIEW		
	NAME	DATE
TRAFFIC SIGNAL & LIGHTING STANDARDS		
PROJECT NO.		
BR PPN-0(169)A	IC-1	OF

ADOT STANDARD DRAWINGS

TRAFFIC SIGNAL AND LIGHTING STANDARDS
(SHEET 2 OF 2)
EFFECTIVE DECEMBER 2012

REVISION DATE	STANDARD NUMBER
	T.S. 7
03/10	7-1 SHT 1
03/10	7-1 SHT 2
03/10	7-1 SHT 3
03/10	7-1 SHT 4
03/10	7-1 SHT 5
03/10	7-2
03/10	7-3
03/10	7-4
03/10	7-5
	T.S. 8
01/12	8-0
01/12	8-1
01/12	8-2
01/12	8-3
03/10	8-4 SHT 1
01/12	8-4 SHT 2
01/12	8-4 SHT 3
03/10	8-4 SHT 4
01/12	8-5
01/12	8-6
01/12	8-7 SHT 1
01/12	8-7 SHT 2
01/12	8-7 SHT 3
	T.S. 9
03/10	9-0 SHT 1
03/10	9-0 SHT 2
03/10	9-1
03/10	9-2
03/10	9-3
03/10	9-4
03/10	9-5
03/10	9-6
03/10	9-7
03/10	9-8
03/10	9-9
	T.S. 10
03/10	10-1
03/10	10-2
03/10	10-3
03/10	10-4
	T.S. 11
03/10	11-1
03/10	11-2
	T.S. 12
03/10	12-1 SHT 1
03/10	12-1 SHT 2
03/10	12-1 SHT 3
	T.S. 13
03/10	13-1
03/10	13-2
03/10	13-3
	T.S. 14
03/10	14-1 SHT 1
03/10	14-1 SHT 2
03/10	14-1 SHT 3
03/10	14-2

SUBJECT:
TRAFFIC SIGNALS AND LIGHTING DETAILS

TRAFFIC SIGNAL DETECTORS
LOOP DETECTOR LOCATION SAWCUT PATTERNS AND INSTALLATION DETAILS
SAW CUT AND CORING DETAILS
SAW CUT AND CORING DETAILS
TYPICAL DETECTOR LOOP LEAD-IN ROAD TO PULL BOX DETAIL
LOOP DETECTOR LOCATION AND INSTALLATION DETAILS
PRE-FORMED LOOP DETECTORS FOR RAMP METERING AND COUNTING
PRE-FORMED LOOP DETECTORS IN BRIDGE DECK
PRE-FORMED LOOP DETECTORS IN PCCP
TYPICAL PRE-FORMED LOOP DETECTOR STUB-OUT DETAIL

SIGNAL ASSEMBLIES
TRAFFIC SIGNAL VEHICLE FACE ASSEMBLY REQUIREMENTS AND DETAILS
VEHICLE TRAFFIC SIGNAL FACE ASSEMBLY
VEHICLE TRAFFIC SIGNAL FACE ASSEMBLY
VEHICLE TRAFFIC SIGNAL FACE ASSEMBLY
12-INCH VEHICLE TRAFFIC SIGNAL HOUSING/SECTION
12-INCH VEHICLE TRAFFIC SIGNAL HOUSING/SECTION NOTES
VEHICLE TRAFFIC SIGNAL HOUSING/SECTION DETAILS
VISORS FOR 8-INCH AND 12-INCH VEHICLE TRAFFIC SIGNAL FACE ASSEMBLIES
FLASHING BEACON SIGNAL FACE ASSEMBLY
LED LAMP FOR PROGRAMMED VISIBILITY SIGNAL
PEDESTRIAN SIGNAL ASSEMBLY *REQUIREMENTS AND DETAILS*
PEDESTRIAN SIGNAL ASSEMBLY HOUSING
PEDESTRIAN SIGNAL ASSEMBLY VISOR

MOUNTING ASSEMBLIES - SIGNAL
MOUNTING ASSEMBLY GENERAL REQUIREMENTS
MOUNTING ASSEMBLY GENERAL REQUIREMENTS
TYPE I AND II MOUNTING ASSEMBLIES
TYPE III AND IV MOUNTING ASSEMBLIES
TYPE V MOUNTING ASSEMBLY
TYPE VI MOUNTING ASSEMBLY
TYPE VII MOUNTING ASSEMBLY
TYPE VIII MOUNTING ASSEMBLY
TYPE IX MOUNTING ASSEMBLY
TYPE X MOUNTING ASSEMBLY
TYPE XI MOUNTING ASSEMBLY

MOUNTING CASTINGS - SIGNAL
MISCELLANEOUS SIGNAL MOUNTING PARTS
MAST ARM SIGNAL MOUNTING PLUMBIZER
SIGNAL MOUNTING POLE PLATE DETAILS
TERMINAL COMPARTMENT, *SIDE MOUNTED AND POLE TOP MOUNTED*

PEDESTRIAN DETAILS
TYPE I PEDESTRIAN PUSH BUTTON HOUSING ASSEMBLY
CAN STYLE PEDESTRIAN PUSH BUTTON

FLASHERS
ADVANCE WARNING FLASHER POLE DETAIL
ADVANCE WARNING FLASHER *POLE SIGN MOUNTING DETAILS*
ADVANCE WARNING FLASHER POLE DETAIL

ILLUMINATION - SIGNS
SIGN LIGHTING DETAIL FOR TUBULAR SIGN STRUCTURES
FUSE PANEL DETAILS FOR SIGN LIGHTING
PLACEMENT OF LIGHTING FIXTURES FOR OVERHEAD SIGNS

ILLUMINATION - SPECIAL
HIGH PRESSURE SODIUM (HPS) LAMPS
HIGH PRESSURE SODIUM (HPS) LAMPS
HIGH PRESSURE SODIUM (HPS) LAMPS
PEDESTRIAN BRIDGE LIGHTING DETAILS

REVISION DATE	STANDARD NUMBER
	T.S. 15
01/12	15-0 SHT 1
01/12	15-0 SHT 2
01/12	15-0 SHT 3
01/12	15-1 SHT 1
01/12	15-1 SHT 2
01/12	15-1 SHT 3
01/12	15-1 SHT 4
01/12	15-1 SHT 5
01/12	15-1 SHT 6
01/12	15-2
01/12	15-3 SHT 1
01/12	15-3 SHT 2
01/12	15-3 SHT 3
01/12	15-4 SHT 1
01/12	15-4 SHT 2
01/12	15-4 SHT 3
01/12	15-5
01/12	15-6
01/12	15-7
01/12	15-8

SUBJECT:
TRAFFIC SIGNALS AND LIGHTING DETAILS

SPAN WIRE SIGNALS AND LIGHTING
GENERAL NOTES
GENERAL NOTES
GENERAL NOTES
STEEL POLE TYPICAL DETAILS
STEEL POLE FOUNDATION DETAILS
STEEL POLE ATTACHMENT DETAILS
WOOD POLE TYPICAL DETAILS
WOOD POLE TYPICAL DETAILS
TYPICAL DETAILS
HANGER AND BALANCE ADJUSTER TYPICAL DETAILS
SIGNAL ASSEMBLY DETAILS
CONDUCTOR ENTRANCE *HEADS TYPE A, B AND C*
ALUMINUM PIPE EXTENSION AND TYPICAL DETAILS
ADJUSTABLE SIGN HANGER TYPICAL DETAILS
ADJUSTABLE SIGN HANGER TYPICAL DETAILS
ADJUSTABLE SIGN HANGER TYPICAL DETAILS
ADJUSTABLE HANGER TOP AND EXTENSION DETAILS
SIGNAL TETHER CLAMP TYPICAL DETAILS
POLE BAND TYPICAL DETAILS
WEATHERHEAD TYPICAL DETAILS

NO.	DESCRIPTION OF REVISION (REVISED SERIES 8 AND 15)	MADE BY	DATE
NO.2	DESCRIPTION OF REVISION (REVISED STANDARDS ON SHEET 1)	MADE BY C. COLE	DATE 1/12
NO.1	DESCRIPTION OF REVISION	MADE BY L. LOPEZ	DATE 12/12

ADOT STANDARD DRAWINGS REVISION DATES AND STANDARD NO.'s REVIEW		
TRAFFIC SIGNAL AND LIGHTING STANDARDS	NAME	DATE
PROJECT NO.		
BR PPN-0(169)A	IC-2	OF

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BU
9	ARIZ.	BR-PPN-0(169)A	10		

ADOT STANDARD DRAWINGS

STRUCTURE DETAIL DRAWINGS

REVISION DATE	SD NUMBER	SUBJECT
RAILINGS		
6/12	SD 1.01	F-SHAPE BRIDGE CONCRETE BARRIER AND TRANSITION (34")
6/12	SD 1.02	F-SHAPE BRIDGE CONCRETE BARRIER AND TRANSITION (44")
6/12	SD 1.03	THRIE BEAM GUARD RAIL TRANSITION SYSTEM
3/09	SD 1.04	COMBINATION PEDESTRIAN-TRAFFIC BRIDGE RAILING
3/09	SD 1.05	PEDESTRIAN FENCE FOR BRIDGE RAILING SD1.04
6/09	SD 1.06 (1 OF 4)	TWO TUBE BRIDGE RAIL
6/09	SD 1.06 (2 OF 4)	TWO TUBE BRIDGE RAIL
6/09	SD 1.06 (3 OF 4)	TWO TUBE BRIDGE RAIL
6/09	SD 1.06 (4 OF 4)	TWO TUBE BRIDGE RAIL
4/10	SD 1.11	BARRIER JUNCTION BOX
APPROACHES		
12/07	SD 2.01	APPROACH SLAB DETAILS
12/07	SD 2.02	TYPE 1 ANCHOR SLAB DETAILS
12/07	SD 2.03	TYPE 2 ANCHOR SLAB DETAILS
9/09	SD 2.04	SLOPE PAVING DETAILS
DECK JOINTS		
6/09	SD 3.01	DECK JOINT ASSEMBLY - COMPRESSION SEAL
12/09	SD 3.02	DECK JOINT ASSEMBLY - STRIP SEAL
12/09	SD 3.03	DECK JOINT ASSEMBLY - RAISED STRIP SEAL
SUBSTRUCTURE		
11/12	SD 5.01	STRUCTURAL EXCAVATION - PAYMENT LIMITS
11/12	SD 5.02	STRUCTURE BACKFILL - PAYMENT LIMITS
DRAINAGE STRUCTURES		
2/12	SD 6.01 (1 OF 5)	REINFORCED CONCRETE BOX CULVERTS - MISCELLANEOUS DETAILS
2/12	SD 6.01 (2 OF 5)	REINFORCED CONCRETE BOX CULVERTS - MISCELLANEOUS DETAILS
2/12	SD 6.01 (3 OF 5)	REINFORCED CONCRETE BOX CULVERTS - EXTENSION DETAILS
2/12	SD 6.01 (4 OF 5)	REINFORCED CONCRETE BOX CULVERTS - STRUCTURAL EXCAVATION & STRUCTURE BACKFILL
2/12	SD 6.01 (5 OF 5)	REINFORCED CONCRETE BOX CULVERTS - SINGLE BARREL (0'-30' FILLS)
2/12	SD 6.02 (1 OF 2)	REINFORCED CONCRETE BOX CULVERTS - DOUBLE BARREL (0'-15' FILLS)
2/12	SD 6.02 (2 OF 2)	REINFORCED CONCRETE BOX CULVERTS - DOUBLE BARREL (15'-30' FILLS)
2/12	SD 6.03 (1 OF 2)	REINFORCED CONCRETE BOX CULVERTS - TRIPLE BARREL (0'-15' FILLS)
2/12	SD 6.03 (2 OF 2)	REINFORCED CONCRETE BOX CULVERTS - TRIPLE BARREL (15'-30' FILLS)
2/12	SD 6.04 (1 OF 2)	REINFORCED CONCRETE BOX CULVERTS - FOUR BARREL (0'-15' FILLS)
2/12	SD 6.04 (2 OF 2)	REINFORCED CONCRETE BOX CULVERTS - FOUR BARREL (15'-30' FILLS)
2/12	SD 6.05 (1 OF 2)	REINFORCED CONCRETE BOX CULVERTS - FIVE BARREL (0'-15' FILLS)
2/12	SD 6.05 (2 OF 2)	REINFORCED CONCRETE BOX CULVERTS - FIVE BARREL (15'-30' FILLS)
2/12	SD 6.06 (1 OF 2)	REINFORCED CONCRETE BOX CULVERTS - SIX BARREL (0'-15' FILLS)
2/12	SD 6.06 (2 OF 2)	REINFORCED CONCRETE BOX CULVERTS - SIX BARREL (15'-30' FILLS)
2/12	SD 6.07	REINFORCED CONCRETE BOX CULVERTS - 16'x 14' EQUIPMENT PASS (0'-20' FILLS)
2/12	SD 6.08 (1 OF 8)	REINFORCED CONCRETE BOX CULVERTS - OUTLET WINGS - SKEW 0°to 20° - CULVERT HEIGHT 5' to 7'
2/12	SD 6.08 (2 OF 8)	REINFORCED CONCRETE BOX CULVERTS - OUTLET WINGS - SKEW 0°to 20° - CULVERT HEIGHT 8' to 12'
2/12	SD 6.08 (3 OF 8)	REINFORCED CONCRETE BOX CULVERTS - INLET WINGS - SKEW 0°to 20° - CULVERT HEIGHT 5' to 7'
2/12	SD 6.08 (4 OF 8)	REINFORCED CONCRETE BOX CULVERTS - INLET WINGS - SKEW 0°to 20° - CULVERT HEIGHT 8' to 12'
2/12	SD 6.08 (5 OF 8)	REINFORCED CONCRETE BOX CULVERTS - OUTLET WINGS - SKEW 25°to 45° - CULVERT HEIGHT 5' to 7'
2/12	SD 6.08 (6 OF 8)	REINFORCED CONCRETE BOX CULVERTS - OUTLET WINGS - SKEW 25°to 45° - CULVERT HEIGHT 8' to 12'
2/12	SD 6.08 (7 OF 8)	REINFORCED CONCRETE BOX CULVERTS - INLET WINGS - SKEW 25°to 45° - CULVERT HEIGHT 5' to 7'
2/12	SD 6.08 (8 OF 8)	REINFORCED CONCRETE BOX CULVERTS - INLET WINGS - SKEW 25°to 45° - CULVERT HEIGHT 8' to 12'
2/12	SD 6.09 (1 OF 3)	REINFORCED CONCRETE BOX CULVERTS - HEADWALL QUANTITIES - 2 :1 SLOPE
2/12	SD 6.09 (2 OF 3)	REINFORCED CONCRETE BOX CULVERTS - HEADWALL QUANTITIES - 4 :1 SLOPE
2/12	SD 6.09 (3 OF 3)	REINFORCED CONCRETE BOX CULVERTS - HEADWALL QUANTITIES - 6 :1 SLOPE
2/12	SD 6.10 (1 OF 2)	REINFORCED CONCRETE BOX CULVERTS - INLET OR OUTLET - LEVEL WINGS - CULVERT HEIGHT 5' to 7'
2/12	SD 6.10 (2 OF 2)	REINFORCED CONCRETE BOX CULVERTS - INLET OR OUTLET - LEVEL WINGS - CULVERT HEIGHT 8' to 12'
2/12	SD 6.11 (1 OF 4)	REINFORCED CONCRETE BOX CULVERTS - OUTLET APRON DETAILS
2/12	SD 6.11 (2 OF 4)	REINFORCED CONCRETE BOX CULVERTS - OUTLET APRON - DIMENSIONS & QUANTITIES (2 :1 SLOPE)
2/12	SD 6.11 (3 OF 4)	REINFORCED CONCRETE BOX CULVERTS - OUTLET APRON - DIMENSIONS & QUANTITIES (4 :1 SLOPE)
2/12	SD 6.11 (4 OF 4)	REINFORCED CONCRETE BOX CULVERTS - OUTLET APRON - DIMENSIONS & QUANTITIES (6 :1 SLOPE)
7/12	SD 6.30 (1 OF 5)	PIPE CULVERT HEADWALLS - MISCELLANEOUS DETAILS
7/12	SD 6.30 (2 OF 5)	PIPE CULVERT HEADWALLS - INLET AND OUTLET - 18" to 42" PIPES
7/12	SD 6.30 (3 OF 5)	PIPE CULVERT HEADWALLS - RIGHT ANGLE INLET AND OUTLET - 48" to 84" PIPES
7/12	SD 6.30 (4 OF 5)	PIPE CULVERT HEADWALLS - SKEWED INLET AND OUTLET - 48" to 84" PIPES
7/12	SD 6.30 (5 OF 5)	PIPE CULVERT HEADWALLS - MULTI-PIPE - 48" to 84" PIPES
7/12	SD 6.31 (1 OF 8)	PIPE CULVERT HEADWALLS - RIGHT ANGLE INLET
7/12	SD 6.31 (2 OF 8)	PIPE CULVERT HEADWALLS - RIGHT ANGLE INLET - 2 :1 SLOPE
7/12	SD 6.31 (3 OF 8)	PIPE CULVERT HEADWALLS - RIGHT ANGLE INLET - 4 :1 SLOPE
7/12	SD 6.31 (4 OF 8)	PIPE CULVERT HEADWALLS - RIGHT ANGLE INLET - 6 :1 SLOPE
7/12	SD 6.31 (5 OF 8)	PIPE CULVERT HEADWALLS - RIGHT ANGLE OUTLET
7/12	SD 6.31 (6 OF 8)	PIPE CULVERT HEADWALLS - RIGHT ANGLE OUTLET - 2 :1 SLOPE
7/12	SD 6.31 (7 OF 8)	PIPE CULVERT HEADWALLS - RIGHT ANGLE OUTLET - 4 :1 SLOPE
7/12	SD 6.31 (8 OF 8)	PIPE CULVERT HEADWALLS - RIGHT ANGLE OUTLET - 6 :1 SLOPE

STRUCTURE DETAIL DRAWINGS

REVISION DATE	SD NUMBER	SUBJECT
DRAINAGE STRUCTURES (Continued)		
7/12	SD 6.32 (1 OF 8)	PIPE CULVERT HEADWALLS - 15° SKEW INLET
7/12	SD 6.32 (2 OF 8)	PIPE CULVERT HEADWALLS - 15° SKEW INLET - 2 :1 SLOPE
7/12	SD 6.32 (3 OF 8)	PIPE CULVERT HEADWALLS - 15° SKEW INLET - 4 :1 SLOPE
7/12	SD 6.32 (4 OF 8)	PIPE CULVERT HEADWALLS - 15° SKEW INLET - 6 :1 SLOPE
7/12	SD 6.32 (5 OF 8)	PIPE CULVERT HEADWALLS - 15° SKEW OUTLET
7/12	SD 6.32 (6 OF 8)	PIPE CULVERT HEADWALLS - 15° SKEW OUTLET - 2 :1 SLOPE
7/12	SD 6.32 (7 OF 8)	PIPE CULVERT HEADWALLS - 15° SKEW OUTLET - 4 :1 SLOPE
7/12	SD 6.32 (8 OF 8)	PIPE CULVERT HEADWALLS - 15° SKEW OUTLET - 6 :1 SLOPE
7/12	SD 6.33 (1 OF 8)	PIPE CULVERT HEADWALLS - 30° SKEW INLET
7/12	SD 6.33 (2 OF 8)	PIPE CULVERT HEADWALLS - 30° SKEW INLET - 2 :1 SLOPE
7/12	SD 6.33 (3 OF 8)	PIPE CULVERT HEADWALLS - 30° SKEW INLET - 4 :1 SLOPE
7/12	SD 6.33 (4 OF 8)	PIPE CULVERT HEADWALLS - 30° SKEW INLET - 6 :1 SLOPE
7/12	SD 6.33 (5 OF 8)	PIPE CULVERT HEADWALLS - 30° SKEW OUTLET
7/12	SD 6.33 (6 OF 8)	PIPE CULVERT HEADWALLS - 30° SKEW OUTLET - 2 :1 SLOPE
7/12	SD 6.33 (7 OF 8)	PIPE CULVERT HEADWALLS - 30° SKEW OUTLET - 4 :1 SLOPE
7/12	SD 6.33 (8 OF 8)	PIPE CULVERT HEADWALLS - 30° SKEW OUTLET - 6 :1 SLOPE
7/12	SD 6.34 (1 OF 8)	PIPE CULVERT HEADWALLS - 45° SKEW INLET
7/12	SD 6.34 (2 OF 8)	PIPE CULVERT HEADWALLS - 45° SKEW INLET - 2 :1 SLOPE
7/12	SD 6.34 (3 OF 8)	PIPE CULVERT HEADWALLS - 45° SKEW INLET - 4 :1 SLOPE
7/12	SD 6.34 (4 OF 8)	PIPE CULVERT HEADWALLS - 45° SKEW INLET - 6 :1 SLOPE
7/12	SD 6.34 (5 OF 8)	PIPE CULVERT HEADWALLS - 45° SKEW OUTLET
7/12	SD 6.34 (6 OF 8)	PIPE CULVERT HEADWALLS - 45° SKEW OUTLET - 2 :1 SLOPE
7/12	SD 6.34 (7 OF 8)	PIPE CULVERT HEADWALLS - 45° SKEW OUTLET - 4 :1 SLOPE
7/12	SD 6.34 (8 OF 8)	PIPE CULVERT HEADWALLS - 45° SKEW OUTLET - 6 :1 SLOPE
7/12	SD 6.35 (1 OF 2)	PIPE CULVERT HEADWALLS - MULTI-PIPE WITHOUT APRON
7/12	SD 6.35 (2 OF 2)	PIPE CULVERT HEADWALLS - MULTI-PIPE WITH OUTLET APRON
7/12	SD 6.36 (1 OF 4)	PIPE CULVERT HEADWALLS - OUTLET APRONS
7/12	SD 6.36 (2 OF 4)	PIPE CULVERT HEADWALLS - OUTLET APRON STEEL LIST - 2 :1 SLOPE
7/12	SD 6.36 (3 OF 4)	PIPE CULVERT HEADWALLS - OUTLET APRON STEEL LIST - 4 :1 SLOPE
7/12	SD 6.36 (4 OF 4)	PIPE CULVERT HEADWALLS - OUTLET APRON STEEL LIST - 6 :1 SLOPE
RETAINING WALLS		
9/10	SD 7.01 (1 OF 5)	RETAINING WALL (REINFORCED CONCRETE CANTILEVER)
9/10	SD 7.01 (2 OF 5)	RETAINING WALL (REINFORCED CONCRETE CANTILEVER)
9/10	SD 7.01 (3 OF 5)	RETAINING WALL (REINFORCED CONCRETE CANTILEVER)
9/10	SD 7.01 (4 OF 5)	RETAINING WALL (REINFORCED CONCRETE CANTILEVER)
9/10	SD 7.01 (5 OF 5)	RETAINING WALL (REINFORCED CONCRETE CANTILEVER)
9/10	SD 7.02 (1 OF 2)	RETAINING WALL (MASONRY CANTILEVER)
9/10	SD 7.02 (2 OF 2)	RETAINING WALL (MASONRY CANTILEVER)
SOUND BARRIER WALLS		
4/10	SD 8.01	SOUND BARRIER WALL (CONCRETE)
1/13	SD 8.02 (1 OF 2)	SOUND BARRIER WALL (MASONRY)
1/13	SD 8.02 (2 OF 2)	SOUND BARRIER WALL (MASONRY)
TRAFFIC STRUCTURES		
11/04	SD 9.01 (1 OF 5)	MEDIAN SIGN STRUCTURE (TWO SIDED) - ELEVATION & NOTES
4/00	SD 9.01 (2 OF 5)	MEDIAN SIGN STRUCTURE (TWO SIDED) - FOUNDATION DETAILS
4/00	SD 9.01 (3 OF 5)	MEDIAN SIGN STRUCTURE (TWO SIDED) - TYPE A SIGN MOUNT ASSEMBLY
4/00	SD 9.01 (4 OF 5)	MEDIAN SIGN STRUCTURE (TWO SIDED) - TYPE B SIGN MOUNT ASSEMBLY
4/00	SD 9.01 (5 OF 5)	MEDIAN SIGN STRUCTURE (TWO SIDED) - LIGHT SUPPORT AND MISC. DETAILS
11/04	SD 9.02 (1 OF 5)	MEDIAN SIGN STRUCTURE (ONE SIDED) - ELEVATION & NOTES
5/00	SD 9.02 (2 OF 5)	MEDIAN SIGN STRUCTURE (ONE SIDED) - FOUNDATION DETAILS
5/00	SD 9.02 (3 OF 5)	MEDIAN SIGN STRUCTURE (ONE SIDED) - TYPE A SIGN MOUNT ASSEMBLY
5/00	SD 9.02 (4 OF 5)	MEDIAN SIGN STRUCTURE (ONE SIDED) - TYPE B SIGN MOUNT ASSEMBLY
5/00	SD 9.02 (5 OF 5)	MEDIAN SIGN STRUCTURE (ONE SIDED) - LIGHT SUPPORT AND MISC. DETAILS
3/11	SD 9.10 (1 OF 5)	TUBULAR SIGN STRUCTURES - TUBULAR CANTILEVER - GENERAL PLAN
3/11	SD 9.10 (2 OF 5)	TUBULAR SIGN STRUCTURES - TUBULAR CANTILEVER - FOUNDATION DETAILS
3/11	SD 9.10 (3 OF 5)	TUBULAR SIGN STRUCTURES - TUBULAR CANTILEVER - POST AND MAST ARM DETAILS
3/11	SD 9.10 (4 OF 5)	TUBULAR SIGN STRUCTURES - TUBULAR CANTILEVER - SIGN SUPPORT DETAILS
3/11	SD 9.10 (5 OF 5)	TUBULAR SIGN STRUCTURES - *TUBULAR CANTILEVER - LIGHT SUPPORT DETAILS*
3/11	SD 9.20 (1 OF 5)	TUBULAR SIGN STRUCTURES - TUBULAR FRAME - GENERAL PLAN
3/11	SD 9.20 (2 OF 5)	TUBULAR SIGN STRUCTURES - TUBULAR FRAME - FOUNDATION DETAILS
3/11	SD 9.20 (3 OF 5)	TUBULAR SIGN STRUCTURES - TUBULAR FRAME - POST AND MAST ARM DETAILS
3/11	SD 9.20 (4 OF 5)	TUBULAR SIGN STRUCTURES - TUBULAR FRAME - SIGN SUPPORT DETAILS
3/11	SD 9.20 (5 OF 5)	TUBULAR SIGN STRUCTURES - TUBULAR FRAME - LIGHT SUPPORT AND MISC. DETAILS
8/02	SD 9.50 (1 OF 5)	VARIABLE MESSAGE SIGN - TUBULAR FRAME - PLAN & ELEVATION
8/02	SD 9.50 (2 OF 5)	VARIABLE MESSAGE SIGN - TUBULAR FRAME - MOUNTING DETAILS
8/02	SD 9.50 (3 OF 5)	VARIABLE MESSAGE SIGN - TUBULAR FRAME - MOUNTING & SIGN BRACKET DETAILS
7/00	SD 9.50 (4 OF 5)	VARIABLE MESSAGE SIGN - CATWALK - HANDRAIL DETAILS
7/00	SD 9.50 (5 OF 5)	VARIABLE MESSAGE SIGN - CATWALK - MISCELLANEOUS DETAILS
8/02	SD 9.51	DUAL VARIABLE MESSAGE SIGN - TUBULAR FRAME
5/07	SD 9.52 (1 of 5)	DYNAMIC MESSAGE SIGN - TUBULAR FRAME - PLAN & ELEVATION
5/07	SD 9.52 (2 of 5)	DYNAMIC MESSAGE SIGN - TUBULAR FRAME - MOUNTING DETAILS
5/07	SD 9.52 (3 of 5)	DYNAMIC MESSAGE SIGN - TUBULAR FRAME - MOUNTING DETAILS
5/07	SD 9.52 (4 of 5)	DYNAMIC MESSAGE SIGN - CATWALK - HANDRAIL DETAILS
5/07	SD 9.52 (5 of 5)	DYNAMIC MESSAGE SIGN - CATWALK - MISCELLANEOUS DETAILS

ADOT STANDARD DRAWINGS
REVISION DATES and STANDARD NOs REVIEW

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUI
9	ARIZ.	BR-PPN-0(169)A	2		

INDEX OF SHEETS

	NAME	DATE
DESIGN	WJS	05/13
DRAWN	ZDR	05/13
CHECKED	EHL	05/13

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Phoenix, AZ 85008 (602)244-2566

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

DESIGN SHEET

ROUTE | LOCATION: FLORENCE-KEVLIN HIGHWAY

PRELIMINAR
STAGE II
Review
NOT FOR CONSTRUCTIO
OR RECORDIN

DWG NO. G-01.01

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A	2		

MIDPOINT OF PROJECT

Central Zone

X = 5,000
Y = 5,000

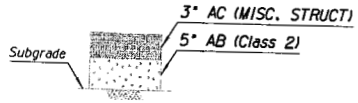
LENGTH OF PROJECT

Sta 0+00.00 to 2+41.27 Bk = 241.27'
Sta 1+22.12 Ahd to 22+47.48 Bk = 2125.36'
Sta 33+69.65 Ahd to 34+60.00 = 90.35'
Gross & Net Length = 2,456.98' - 0.46 Miles

DESIGN DATA

Min Design Speed

Mainline =35 MPH



Total Thickness = 8"

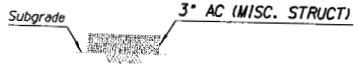
SECTION NO. 1

Total Thickness = 2"

SECTION NO. 2

SECTION NO. 3

PAVEMENT STRUCTURAL SECTION



Total Thickness = 3"

SECTION NO. 4

EQUATIONS:

Florence - Kelvin Hwy Sta 11+78.52 Bk =
Sta 0+55.15 Ahd

Florence - Kelvin Hwy Sta 22+47.48 Bk =
Sta 33+69.65 Ahd

GENERAL NOTES

The roadway plans have been designed utilizing the 2000 Construction Standard Drawings (C-Series) and current revisions.

The project roadway shall be striped by contractor forces in accordance with the current edition of the Signing and Marking Standard Drawings (M&S-Series) and striping plans.

All work shall be done within the existing right-of-way.

The average project elevation is 1,810 ft.

	NAME	DATE
DESIGN	WJS	05/13
DRAWN	ZDR	05/13
CHECKED	EHL	05/13

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

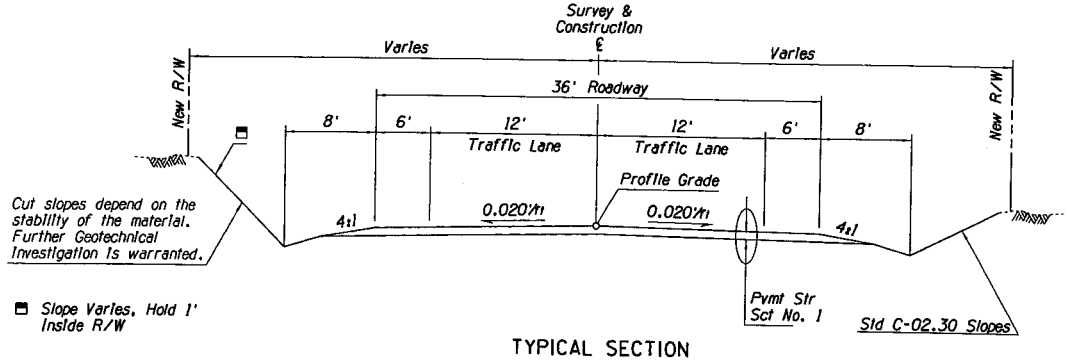
DESIGN SHEET

ROUTE | LOCATION: FLORENCE-KELVIN HIGHWAY

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTIO
OR RECORDIN

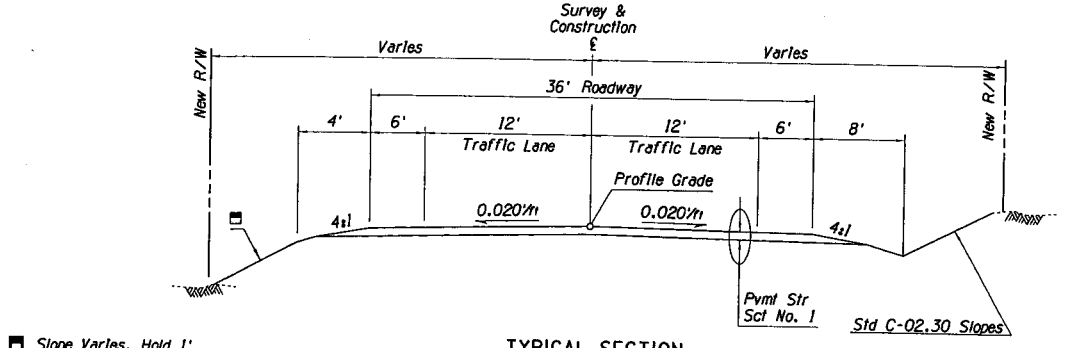
DWG NO. G-01.02

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			



TYPICAL SECTION

Florence-Kelvin Hwy Sta 0+76.63 to 2+00.00



TYPICAL SECTION

Florence-Kelvin Hwy Sta 2+00.00 Ahd to 3+76.63

	NAME	DATE
DESIGN	WJS	05/13
DRAWN	ZDR	05/13
CHECKED	EHL	05/13

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

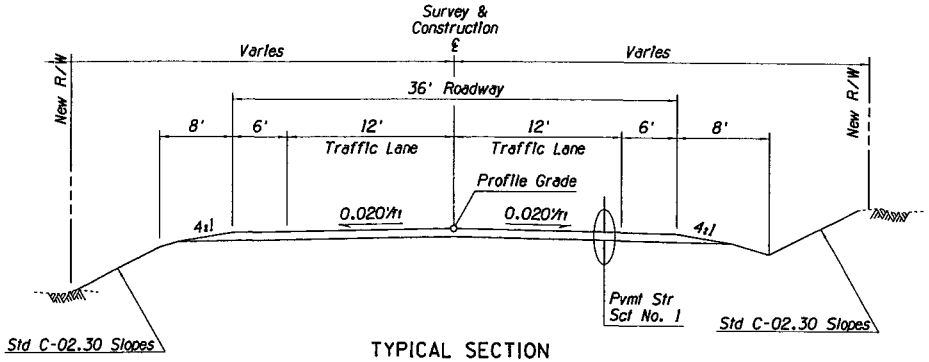
DESIGN SHEET
TYPICAL SECTIONS

ROUTE | LOCATION
FLORENCE-KELVLIN HIGHWAY

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

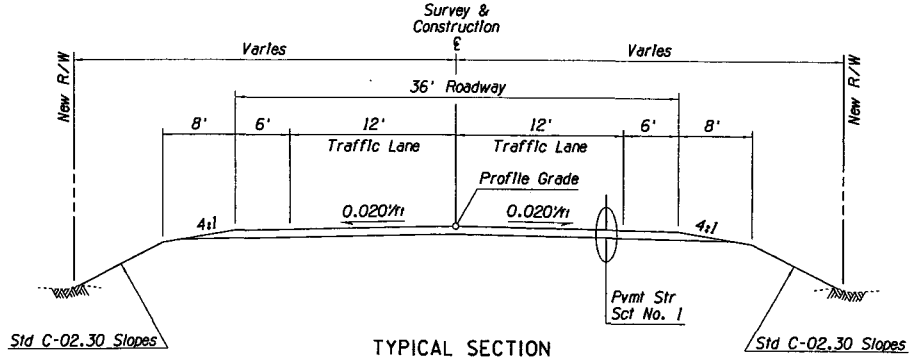
DWG NO. C-01.02

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			



TYPICAL SECTION

Florence-Kelvin Hwy Sta 3+76.63 to 6+72.00



TYPICAL SECTION

Florence-Kelvin Hwy Sta 13+75.00 Ahd to 15+50.00

Florence-Kelvin Hwy Sta 16+25.00 Ahd to 16+50.00

	NAME	DATE
DESIGN	WJS	05/13
DRAWN	ZDR	05/13
CHECKED	EHL	05/13

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

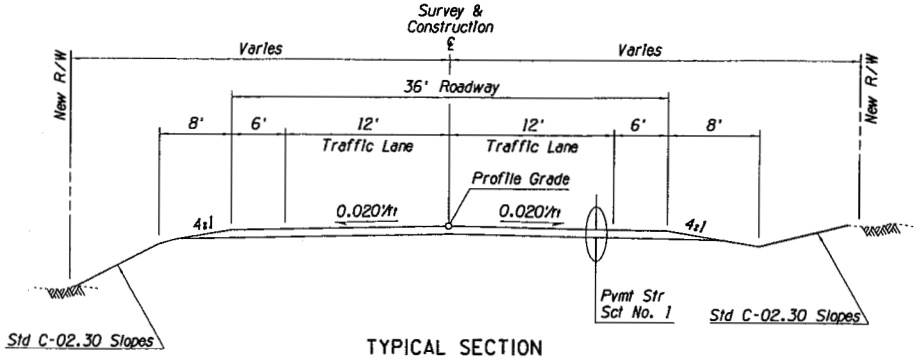
DESIGN SHEET
TYPICAL SECTIONS

ROUTE | LOCATION
FLORENCE-KELVIN HIGHWAY

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTIO
OR RECORDIN

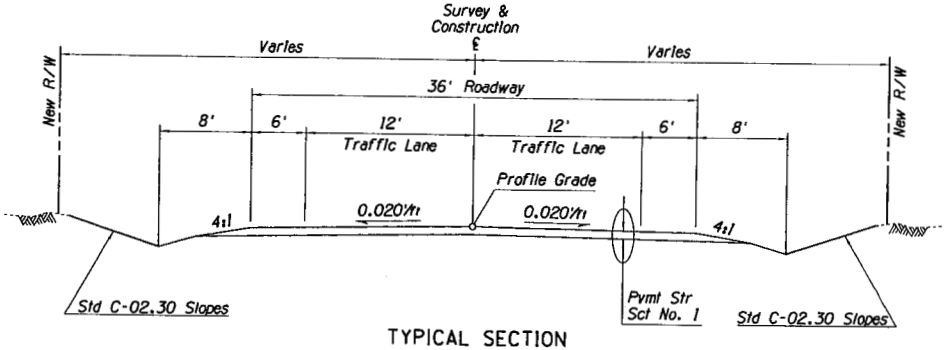
DWG NO. C-01.04

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			



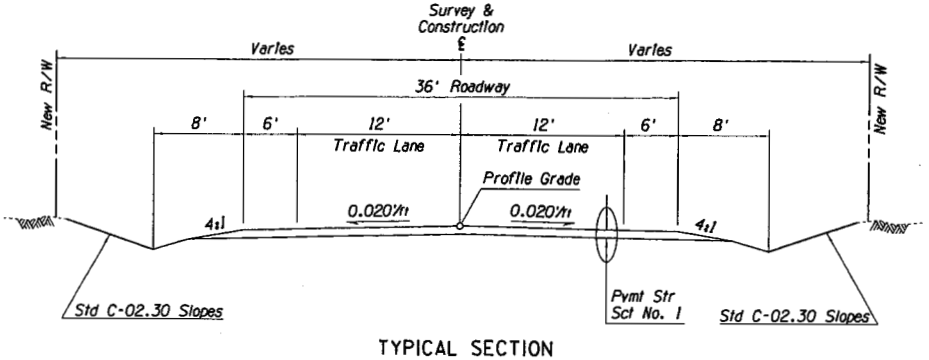
TYPICAL SECTION

Florence-Kelvin Hwy Sta 15+50.00 Ahd to 16+00.00
Florence-Kelvin Hwy Sta 16+50.00 Ahd to 17+00.00



TYPICAL SECTION

Riverside Drive Sta 30+00.00 to 35+22.51



TYPICAL SECTION

Florence-Kelvin Sta 17+00.00 Ahd to 34+60.00

	NAME	DATE
DESIGN	WJS	05/13
DRAWN	ZDR	05/13
CHECKED	EHL	05/13

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

DESIGN SHEET
TYPICAL SECTIONS

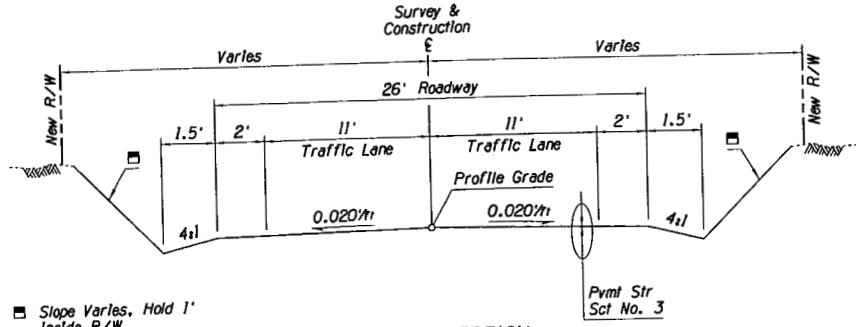
ROUTE | LOCATION
FLORENCE-KELVIN HIGHWAY

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

DWG NO. C-01.05

SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE | SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE

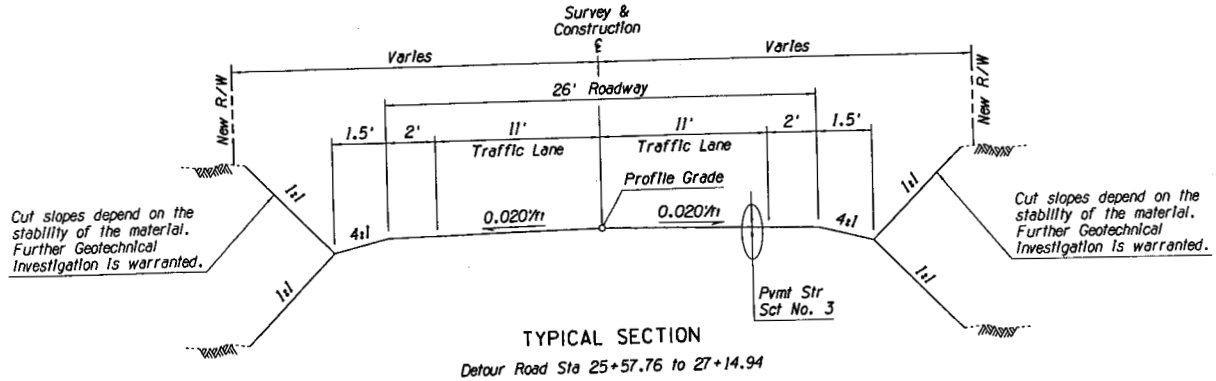
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			



■ Slope Varies, Hold 1' Inside R/W

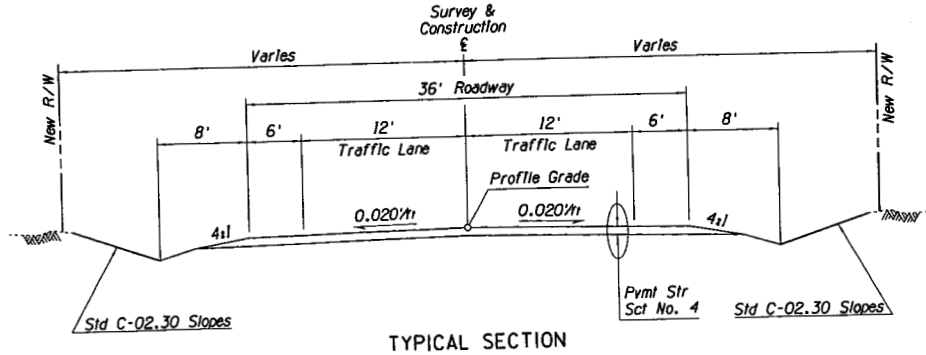
TYPICAL SECTION

Detour Road Sta 10+00.00 to 16+40.00
Detour Road Sta 25+57.76 to 27+14.94



TYPICAL SECTION

Detour Road Sta 25+57.76 to 27+14.94



TYPICAL SECTION

Access Road Sta 20+00.00 to 25+71.84

	NAME	DATE
DESIGN	WJS	05/13
DRAWN	ZDR	05/13
CHECKED	EHL	05/13

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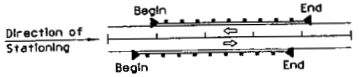
ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

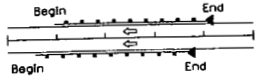
DESIGN SHEET
TYPICAL SECTIONS

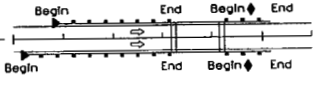
ROUTE	LOCATION
	FLORENCE-KEVLIN HIGHWAY

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

DWG NO. C-01.06







F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

TWO-WAY ROADWAY

ONE-WAY ROADWAY

ONE-WAY ROADWAY WITH STRUCTURE

LOCATION	◇	BARRIER NEW GUARDRAIL								EXISTING GR							CONCRETE BARRIER											CABLE	
Beginning Station (Approximate) (0)	Plan Reference Number	Type "A" C-10.01, Type "B" C-10.02 ◇	C-10.03 (Timber)	C-10.04 (Steel)	Detail	Length (Linear Feet) (0.0)	C-10.06 Nested W-Beam ▲ Length (Linear Feet) (0.0)	C-10.07 Bolted Anchor (Each)	Shop Curved Guardrail Length (Linear Feet) (0.0)	Reconstruct-Exst Post, Block	Reconstruct-New Post, Block	Remove and Salvage	Construct from Salvage	Remove	Length (Linear Feet) (0.0)	Remove Existing Length (Linear Feet) (0.0)	C-10.40 (32" Median)	C-10.41 (42" Median)	C-10.50 (32" Half)	C-10.51 (32" Half w/ Sidewalk)	C-10.52 (32" Half w/ Gutter) △	C-10.53 (42" Half w/ Gutter) △	C-10.54 (32" Half at Piers)	C-10.55 (42" Half at Piers)	Bridge Barrier ◒	Detail	Length (Linear Feet) (0.0)	High-Tension Cable Barrier ● Length (Linear Feet) (0)	C-12.30 Chain-Link Cable Length (Linear Feet) (0.0)
Florence-Kelvin Hwy 3+20.66, Lt	1	B	X			350.0	12.5																						
Florence-Kelvin Hwy 4+77.13, Rt	2	B	X																										
Florence-Kelvin Hwy 6+20.75, Rt	3	B	X			20.0	12.5																						
Florence-Kelvin Hwy 13+73.50, Lt	4	B	X			50.0	12.5																						
Florence-Kelvin Hwy 13+73.50, Rt	5	B	X			50.0	12.5																						
Riverside Drive 0+29.70, Lt	6	B	X			50.0	12.5		48.0																				
Florence-Kelvin Hwy 0+25.71, Rt	7	B	X			402.0	12.5		53.0																				
Sheet Total																													

		TRANSITION RAIL Each			CONCRETE BARRIER Each							END TREATMENT Action					Each ◪							
Plan Reference Number	Begin = Treatment at Beginning End = Treatment at End	C-10.30 Thrie Beam	Bridge Thrie Beam ◒	Reconstruct Rub Rail	C-10.70 32" or C-10.72 42"	C-10.71 32" or C-10.73 42" △	C-10.74 42" to 32"	C-10.75 32" to C&G ◇	C-10.76 32" on Radius	Bridge Barrier ◒	Detail	New	Reconstruct (See Special Prv)	Remove and Salvage	Construct from Salvage	Remove	Tangent ET Plus or SKT-350 ◧	Flared SRT-350 or FLEAT-350 ◧	End Anchor C-10.08 or Detail	High-Tension Cable Terminal	Sand Barrels C-1 or Detail ■	Attenuator Detail	BCT (L=12.5')	REMARKS
1	Begin											X							1					
	End	X										X												
2	Begin											X							1					
	End																							
3	Begin	X										X												
	End											X							1					
4	Begin	X										X												
	End											X							1					
5	Begin	X										X												
	End											X							1					
6	Begin											X							1					
	End																							
7	Begin											X							1					
	End																							
	Begin																							
	End																							
	Begin																							
	End																							
	Begin																							
	End																							
	Begin																							
	End																							
	Begin																							
	End																							
	Begin																							
	End																							
Sheet Total																								

THE ZEROS IN PARENTHESES (0.0) INDICATE THE DIMENSIONAL PRECISION FOR THAT COLUMN

▲ THE LENGTH OF NESTED W-BEAM IS FOR TYPES 2 OR 3 (37.5'). DETERMINATION OF TYPE (1, 2 or 3) TO USE IS MADE IN THE FIELD. THE PAY QUANTITY IS THE LENGTH INSTALLED PER STD. C-10.06 (25.0' or 37.5').

△ SPECIFY GUTTER WIDTH UNDER 'REMARKS'

◆ BEGIN STATION AFTER BRIDGE TRANSITION

◒ SEE BRIDGE SHEETS FOR DETAILS AND QUANTITIES

● LENGTH IS FROM LENGTH OF NEED (LON) POINT TO LON POINT. ACTUAL SEGMENT LENGTH VARIES DEPENDING ON TERMINAL TYPE. SEE SPECIAL PROVISIONS.

◇ SPECIFY TYPE 1 OR 2 UNDER 'REMARKS'

◪ ALLOWABLE *END TREATMENT* OPTIONS ARE INDICATED WITH THE NUMBER '1' IN THE SPACE. BLANK SPACES ARE NOT VIABLE ALTERNATIVES.

■ ARRAY TYPE AND ANGLE IS NOTED UNDER 'REMARKS'

◧ NOTE: FOR AS-BUILT PREPARATION - CIRCLE END TREATMENT INSTALLED

	NAME	DATE
DESIGN	WJS	05/13
DRAWN	ZOR	05/13
CHECKED	EHL	05/13

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

BARRIER SUMMARY SHEET

ROUTE
LOCATION
FLORENCE-KEVLIN HIGHWAY

TRACS NO.
BR-PPN-0(169)A

PRELIMINAR
STAGE II
Review
NOT FOR
CONSTRUCTI
OR RECORD I
DWG NO. C-01.0
8 OF

REV. DATE: 11/02/2009

DATE-
LOCATION-
REVISIONS-
FINISHED PLANS-
SURVEY NO.
DATE-
LOCATION-
REVISIONS-
FINISHED PLANS-
SURVEY NO.

NOTE:
THE ZEROS IN PARENTHESES (0, 0.0 & 0.000) INDICATE THE DIMENSIONAL PRECISION FOR THAT COLUMN

NOTE:
FOR PIPE CULVERT PLACEMENT SEE STANDARD DRAWINGS C-13.10 AND C-13.15

NOTE:
PIPE OPTIONS SELECTED ARE THOSE REQUIRED TO MEET MINIMUM SERVICE LIFE. ALLOWABLE PIPE OPTIONS ARE INDICATED WITH THE LETTER 'X' IN THE SPACE. BLANK SPACES ARE NOT ALLOWABLE ALTERNATES.

CSP - CORRUGATED STEEL PIPE
CAP - CORRUGATED ALUMINUM PIPE
RCP - REINFORCED CONCRETE PIPE
NRCP - NON-REINFORCED CONCRETE PIPE
NRCIPCP - NON-REINFORCED CAST-IN-PLACE CONCRETE PIPE
CHDPEPP - CORRUGATED HIGH-DENSITY POLYETHYLENE PLASTIC PIPE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

DESCRIPTION							CSP					CAP			RCP		NRCIPCP	CHDPEPP	END TREATMENT												QUANTITIES	
			In.	In.	Ft.	Degree	In.	Coating				In.					In.		Each	Catch Basin, Manhole, Headwall & Junction Structure											Cubic Yard	
Station	Plan Reference Number	● Controlling Fill Height Range	Size, Corrugated	Size, Smooth	Length (0)	Skew (0)	☑ Corrugation	Wall Thickness (0.000)	Zinc	Bituminous Coated Zinc	Aluminum	Bituminous Coated Aluminum	☑ Corrugation	Wall Thickness (0.000)	Uncoated	Bituminous Coated	Class - Non-Trench	Class - Trench	Class	Minimum Wall Thickness (0)	AASHTO M-294 Type C	AASHTO M-294 Type S	C-13.20 & C-13.25	Detail	Size, (in) Manhole	End Section Standard or Detail	S-Single / D-Double	Location	H (0.0)	L Wing (0.0)	Ft. L 18° Slotted Drain (0)	Ft. L 24° Slotted Drain (0)	Type	Grate Elevation (0.00)	Grate Ft. Depth In.	Grate Ft. L (0.0)	Inlet Depression C-15.10	Pipe Excavation (0)	Pipe Backfill (0) C-13.15	Drainage Excavation (0)	Berm/Dike Embankment (0)	REMARKS
DETOUR ROAD																																								
42+44	1	1	12		41		A	0.052	X																															
44+20	2	1	12		38		A	0.052	X																															Install 25 CY 18" Riprap Gradation
47+10	3	2		24	77	13										III	III			X			B-11.11			LT													Section 810-2.03, ● LT and RT
FLORENCE-KELVIN HWY.																																								
12+56, 43.5' Rt.	4	3		24	118											III	III						C-15.75	S		RT						1772.0							Install 25 CY 18" Riprap Gradation
																							C-18.10			LT													Section 810-2.03, ● RT
12+91.50, 69' Lt.	5	2		36	130											III	III					48	C-18.10			RT	5.5'					1774.8							Install 25 CY 18" Riprap Gradation
																							B-11.11			LT													Section 810-2.03, ● LT
																III	III						C-15.81	S		LT	13.5'					1787.5							
14+49, 47' Lt.	6	5		24	152																		C-18.10			LT													
Sheet Total																																								

REV. DATE: 05/03/2010

FILL HEIGHT RANGE TABLE (Ft.)													
RANGE NO.		1	2	3	4	5	6	7	8	9	10	11	12
FILL HEIGHT (Ft.)	>	1	3	5	8	11	15	20	25	30	40	55	70
	≤	3	5	8	11	15	20	25	30	40	55	70	90

● SHOULD FIELD CONDITIONS VARY FROM THE RANGE INDICATED, CONTACT DESIGN FOR RE-EVALUATION OF PIPE DESIGN REQUIREMENTS.

☑ PIPE CORRUGATION			
A	2⅔x½	D	6x2
B	3x1	E	3x1 or 9x2½
C	9x2½		

	NAME	DATE
DESIGN	RJS	05/13
DRAWN	AFA	05/13
CHECKED	EHL	05/13

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

NEW PIPE SUMMARY SHEET

ROUTE	LOCATION
	FLORENCE-KELVIN HIGHWAY

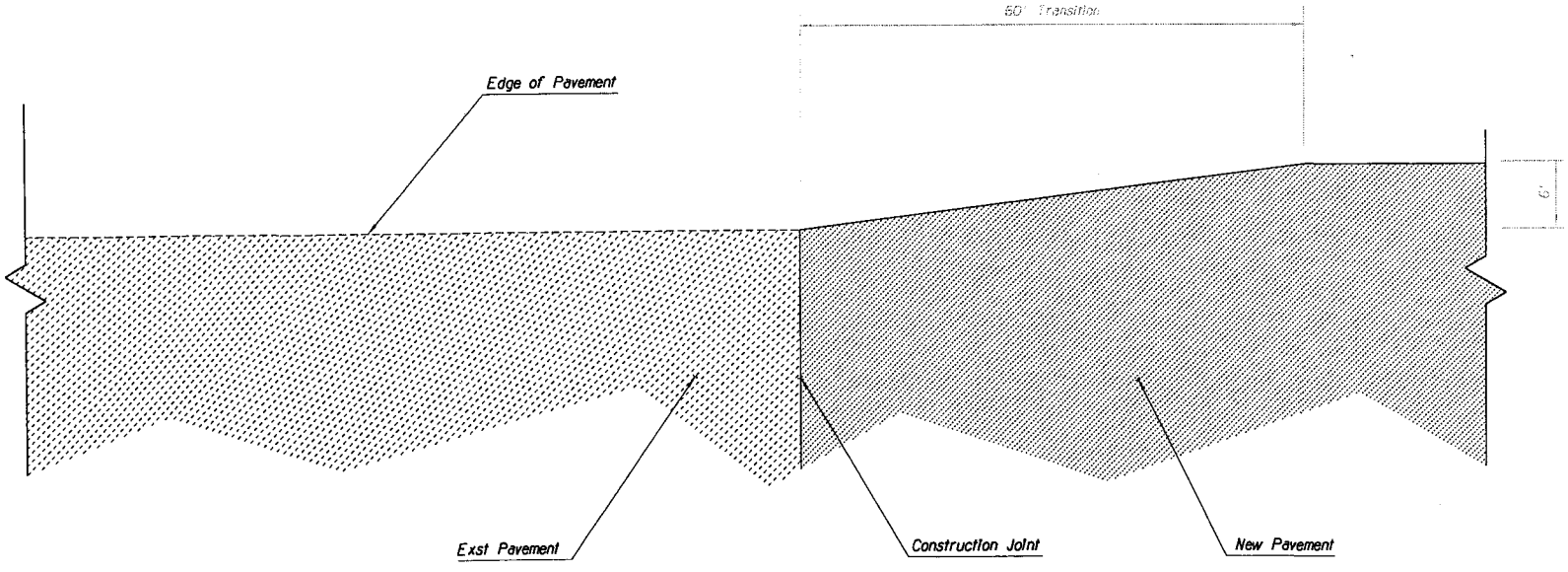
TRACS NO. BR-PPN-0(169)A

PRELIMINARY
STAGE
Review
NOT FOR CONSTRUCTION OR RECORD

DWG NO. C-0

9 OF

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A	18		



NEW PAVEMENT TRANSITION

DETAIL A

	NAME	DATE
DESIGN	WJS	05/13
DRAWN	ZDR	05/13
CHECKED	EHL	05/13

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

DETAIL SHEET
DETAIL A

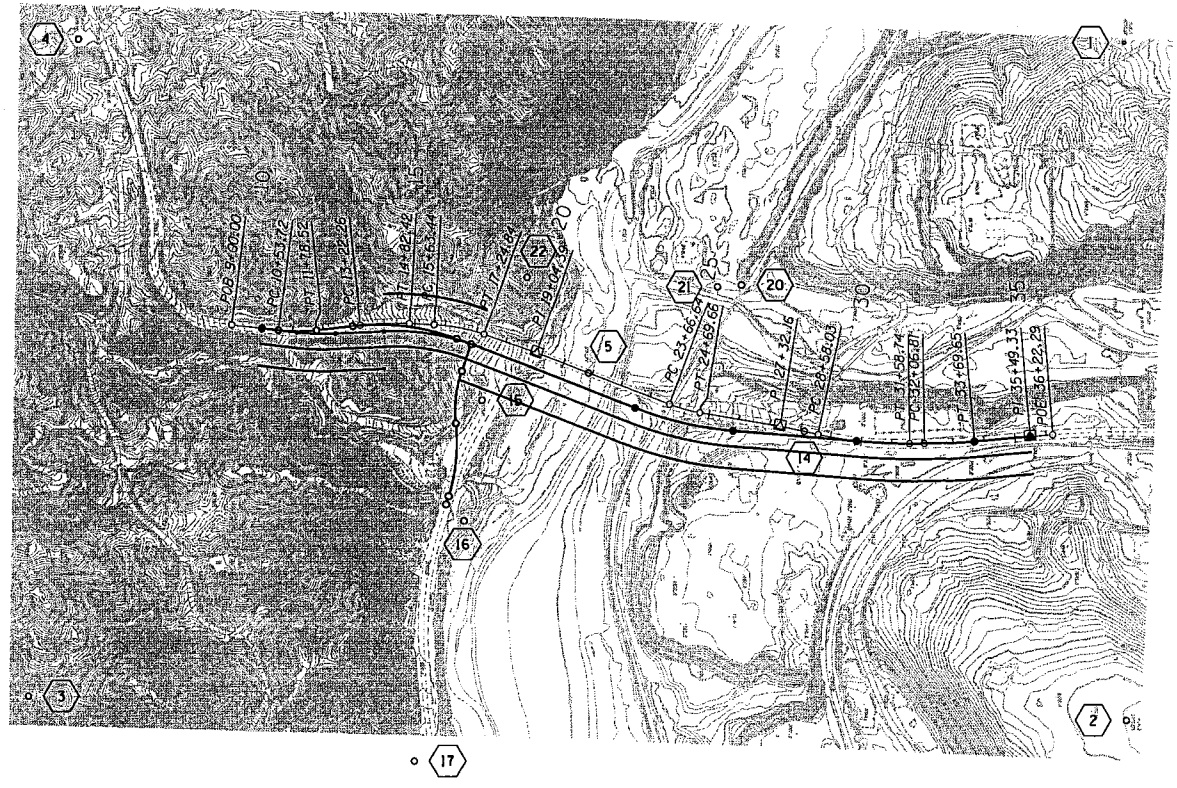
PRELIMINARY STAGE
Review
NOT FOR CONSTRUCTION OR RECORD

ROUTE | LOCATION: FLORENCE-KEVLIN HIGHWAY

DWG NO. G-01

9 05

F.A.H.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			



POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	6725.008	3932.874	1834.677	AP #1
2	6749.986	6099.810	1873.058	AP #2
3	3175.550	6031.132	1961.311	AP #3
4	3336.920	3928.835	1918.974	AP #4
5	5000.000	5000.000	1774.740	AP #5
14	5699.961	5183.600	1804.610	CP
15	4655.103	5086.684	1788.179	CP
15	4655.103	5086.684	1788.179	CP
16	4598.661	5471.630	1806.795	CP
17	4440.222	6241.730	1813.042	CP
20	5492.919	4715.452	1773.014	NGS S 67
21	5414.564	4721.524	1860.842	NGS S 67
22	4795.941	4693.067	1854.149	NAIL/CHASER

LEGEND

- ○ *Control Point*
- ⬡ *Control Point No.*

	NAME	DATE
DESIGN	WJS	05/13
DRAWN	ZDR	05/13
CHECKED	EHL	05/13

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ROUTE | LOCATION: FLORENCE-KEVLIN HIGHWAY

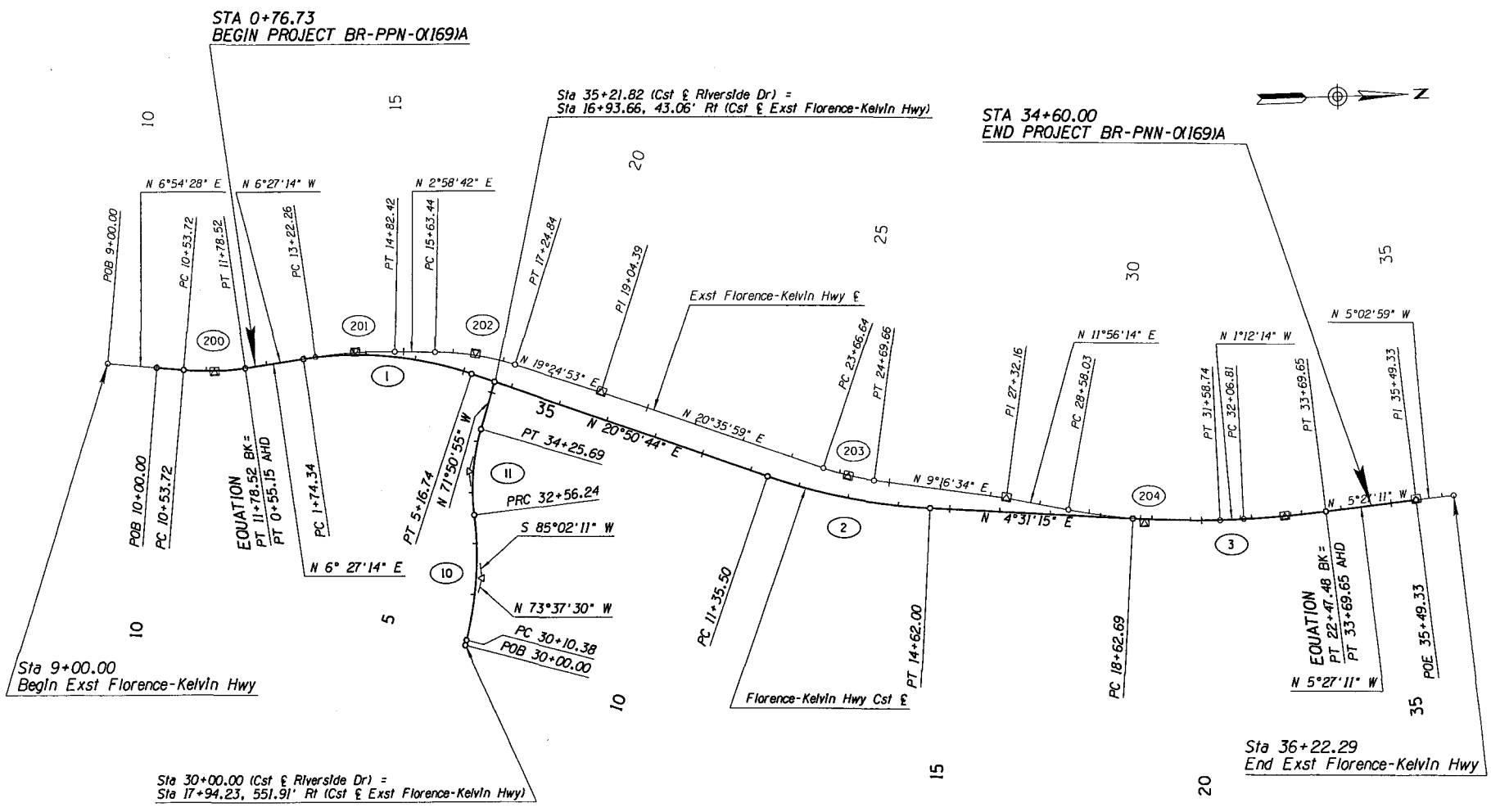
ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

CONTROL POINT PLAN

PRELIMINARY
STAGE
Review
NOT FOR CONSTRUCTION OR RECORD

DWG NO. C-01.

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			



	NAME	DATE
DESIGN	WJS	05/13
DRAWN	ZDR	05/13
CHECKED	EHL	05/13

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

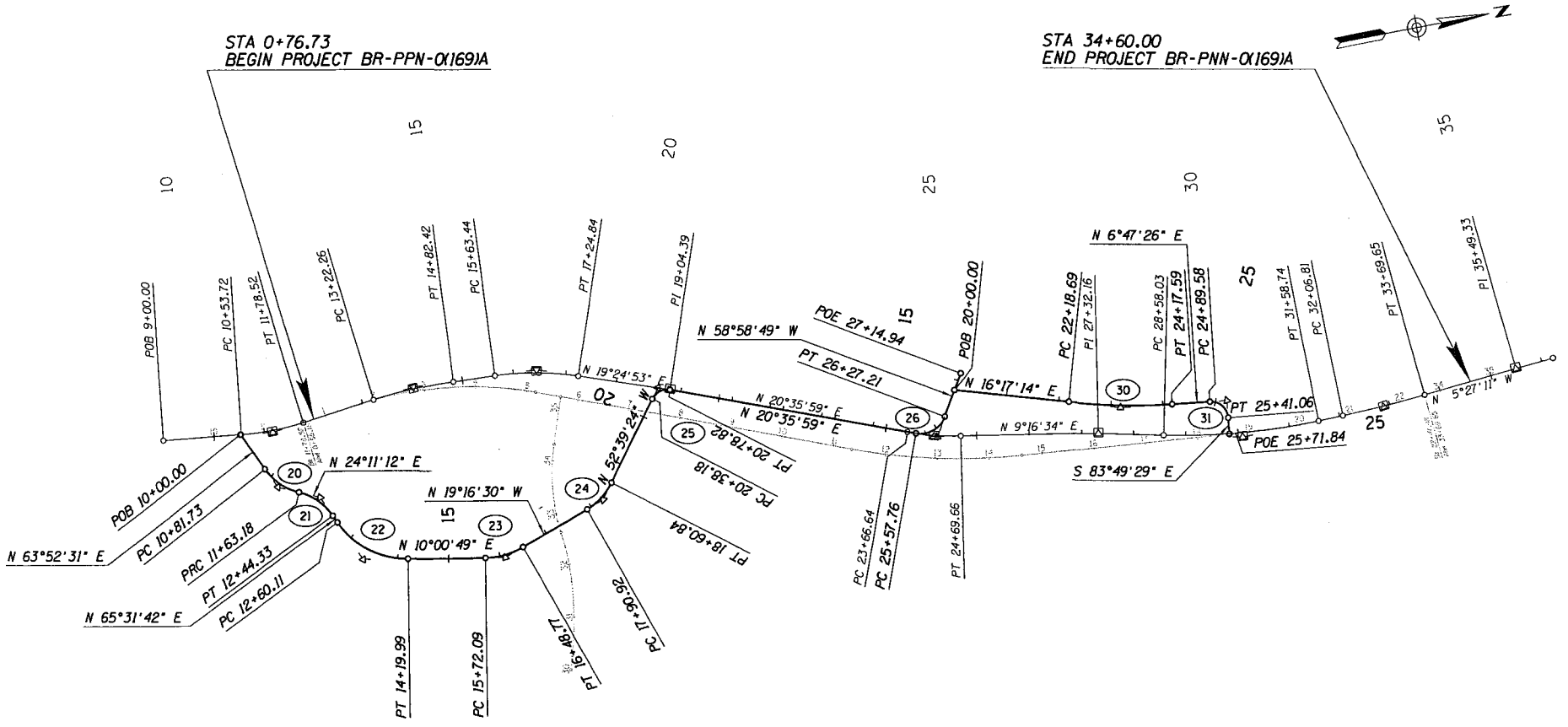
GEOMETRIC LAYOUT
STA 0+00 TO 19+50.79

ROUTE | LOCATION
FLORENCE-KELVIN HIGHWAY

PRELIMINARY
STAGE
Review
NOT FOR CONSTRUCTION RECORD

DWG NO. C-01

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			



	NAME	DATE
DESIGN	WJS	05/13
DRAWN	AFA	05/13
CHECKED	EHL	05/13

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

GEOMETRIC LAYOUT
DETOUR ROAD & ACCESS ROAD

ROUTE
LOCATION
FLORENCE-KEVLIN HIGHWAY

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTIO
OR RECORDIN

DWG NO. C-01.03

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

Centerline Geometric Data Sheet
Use this sheet ONLY If the project was surveyed

PLAN REF NO.	DESCRIPTION	Point Type	STATION	COORDINATES		Spiral Total					Spiral Main or Circular Curve							Spiral Curve			
				Northing	Easting	Total Delta	T	L	R+o	Ext	Δ	D	R	L	T	Ext	Super	Δ	L	o	t
	Florence-Kelvin Exst ℄	POT	9+00.00	3841.66	4842.41																
(200)	Florence-Kelvin Exst ℄	PI	11+16.40	4056.49	4868.44						13°21'42"Lt	10°42'23"	535.15'	124.80'	62.68'	3.66'	0.020'/ft				
	Florence-Kelvin Exst ℄	PC	10+53.72	3994.26	4860.90																
	Florence-Kelvin Exst ℄	PT	11+78.52	4118.78	4861.40																
(201)	Florence-Kelvin Exst ℄	PI	14+02.52	4341.36	4836.22						9°25'56"Rt	5°53'21"	972.91'	160.16'	80.26'	3.31'	0.020'/ft				
	Florence-Kelvin Exst ℄	PC	13+22.26	4261.60	4845.24																
	Florence-Kelvin Exst ℄	PT	14+82.42	4421.51	4840.39																
(202)	Florence-Kelvin Exst ℄	PI	16+44.70	4583.57	4848.82						16°26'11"Rt	10°11'01"	562.62'	161.40'	81.26'	5.84'	0.020'/ft				
	Florence-Kelvin Exst ℄	PC	15+63.44	4502.43	4844.60																
	Florence-Kelvin Exst ℄	PT	17+24.84	4660.21	4875.83																
	Florence-Kelvin Exst ℄	PI	19+04.39	4829.55	4935.51																
(203)	Florence-Kelvin Exst ℄	PI	24+18.31	5310.61	5116.33						11°19'25"Lt	10°59'30"	521.27'	103.02'	51.68'	2.56'	0.020'/ft				
	Florence-Kelvin Exst ℄	PC	23+66.64	5262.24	5098.15																
	Florence-Kelvin Exst ℄	PT	24+69.66	5361.62	5124.66																
	Florence-Kelvin Exst ℄	PI	27+32.16	5620.68	5166.97																
(204)	Florence-Kelvin Exst ℄	PI	30+09.05	5891.59	5224.25						13°08'58"Lt	4°22'22"	1310.31'	300.72'	151.02'	8.67'	0.020'/ft				
	Florence-Kelvin Exst ℄	PC	28+58.03	5743.83	5193.01																
	Florence-Kelvin Exst ℄	PT	31+58.74	6042.58	5221.05																
(204)	Florence-Kelvin Exst ℄	PI	32+88.27	6172.07	5218.31						4°14'27"Lt	2°36'16"	2200.00	162.84'	81.46'	1.51'	0.020'/ft				
	Florence-Kelvin Exst ℄	PC	32+06.81	6090.64	5220.03																
	Florence-Kelvin Exst ℄	PT	33+69.65	6253.16	5210.57																
	Florence-Kelvin Exst ℄	PI	35+49.33	6432.03	5193.49																
	Florence-Kelvin Exst ℄	POT	36+22.29	6504.71	5187.07																
	Florence-Kelvin Survey & Cst ℄	POT	10+00.00	3940.93	4854.44																
(1)	Florence-Kelvin Survey & Cst ℄	PI	11+16.40	4056.49	4868.44						13°21'42"Lt	10°42'23"	535.15'	124.80'	62.68'	3.66'	0.020'/ft				
	Florence-Kelvin Survey & Cst ℄	PC	10+53.72	3994.26	4860.90																
	Florence-Kelvin Survey & Cst ℄	EQUA BK	11+78.52	4118.78	4861.40																
	Florence-Kelvin Survey & Cst ℄	AHD /PT	0+55.15	4118.78	4861.40																
(2)	Florence-Kelvin Survey & Cst ℄	PI	3+48.85	4410.62	4828.38						27°17'58"Rt	7°58'23"	718.61'	342.39'	174.51'	20.89'	0.020'/ft				
	Florence-Kelvin Survey & Cst ℄	PC	1+74.34	4237.22	4848.00																
	Florence-Kelvin Survey & Cst ℄	PT	5+16.74	4573.71	4890.48																
(3)	Florence-Kelvin Survey & Cst ℄	PI	12+99.86	5305.57	5169.16						16°19'30"Lt	5°00'00"	1145.91'	326.50'	164.36	11.73'	0.030'/ft				
	Florence-Kelvin Survey & Cst ℄	PC	11+35.50	5151.97	5110.67																
	Florence-Kelvin Survey & Cst ℄	PT	14+62.00	5469.42	5182.11																

All Coordinates Are Ground Coordinates And All Bearings Are Grid Bearings
All bearings and angles have been rounded to the nearest second.
Use the control points provided and their respective state plane coordinates to re-establish the centerline of each roadway.

C.A.F. =

	NAME	DATE
DESIGN	WJS	05/13
DRAWN	ZDR	05/13
CHECKED	EHL	05/13

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Phoenix, AZ 85008 (602)244-2566

ROUTE | LOCATION: FLORENCE-KEVLIN HIGHWAY

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

GEOMETRIC DATA SHEET

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

DWG NO. C-01.04

DATE- | LOCATION- | REVISIONS- | FINISHED PLANS- | SURVEY NO.
DATE- | LOCATION- | REVISIONS- | FINISHED PLANS- | SURVEY NO.

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

Centerline Geometric Data Sheet
Use this sheet ONLY if the project was surveyed

PLAN REF NO.	DESCRIPTION	Point Type	STATION	COORDINATES		Spiral Total					Spiral Main or Circular Curve							Spiral Curve			
				Northing	Easting	Total Delta	T	L	R+o	Ext	Δ	D	R	L	T	Ext	Super	Δ	L	o	†
(3)	Florence-Kelvin Survey & Cst ℄	PI	20+55.57	6061.15	5228.90						9°58'26"Lt	2°35'31"	2210.47'	384.79'	192.88'	8.40'	0.020/ft				
	Florence-Kelvin Survey & Cst ℄	PC	18+62.69	5868.87	5213.70																
	Florence-Kelvin Survey & Cst ℄	EQUA BK	22+47.48	6253.16	5210.57																
	Florence-Kelvin Survey & Cst ℄	AHD /PT	33+69.65	6253.16	5210.57																
	Florence-Kelvin Survey & Cst ℄	POT	35+49.33	6432.03	5193.49																
	Riverside Drive Cst ℄	POT	30+00.00	4541.99	5419.36																
(10)	Riverside Drive Cst ℄	PI	31+34.75	4579.97	5290.07						21°20'19"Lt	8°40'44"	660.17'	245.87'	124.37'	11.61'	0.020/ft				
	Riverside Drive Cst ℄	PC	30+10.38	4544.91	5409.40																
	Riverside Drive Cst ℄	PRC	32+56.24	4569.21	5166.17																
(11)	Riverside Drive Cst ℄	PI	33+42.14	4561.78	5166.17						23°06'54"Rt	13°38'30"	420.01'	169.44'	85.89'	8.69'	0.020/ft				
	Riverside Drive Cst ℄	PRC	32+56.24	4569.21	5160.84																
	Riverside Drive Cst ℄	PT	34+25.69	4588.54	4998.98																
	Riverside Drive Cst ℄	POT	35+21.82	4618.49	4907.63																
	Detour Road ℄	POT	10+00.00	3992.46	4860.68																
(20)	Detour Road ℄	PI	11+24.16	4047.14	4972.16						39°41'19"Lt	48°43'43"	117.58'	81.45'	42.43'	7.42'					
	Detour Road ℄	PC	10+81.73	4028.45	4934.06																
	Detour Road ℄	PRC	11+63.18	4085.85	4989.55																
(21)	Detour Road ℄	PI	12+05.61	4124.56	5006.93						41°20'30"Rt	50°56'30"	112.47'	81.15'	42.43'	7.74'					
	Detour Road ℄	PRC	11+63.18	4085.85	4989.55																
	Detour Road ℄	PT	12+44.33	4142.13	5045.56																
(22)	Detour Road ℄	PI	13+46.95	4148.64	5138.96						55°30'53"Lt	34°43'29"	165.00'	159.87'	86.84'	21.46'					
	Detour Road ℄	PC	12+60.11	4148.67	5059.92																
	Detour Road ℄	PT	14+19.99	4270.16	5154.06																
(23)	Detour Road ℄	PI	16+11.29	4458.55	5187.32						29°17'19"Lt	38°11'50"	150.00'	76.68'	39.20'	5.04'					
	Detour Road ℄	PC	15+72.09	4419.95	5180.51																
	Detour Road ℄	PT	16+48.77	4495.55	5174.38																
(24)	Detour Road ℄	PI	18+26.92	4663.69	5115.58						33°22'54"Lt	47°44'47"	120.00'	69.91'	35.98'	5.28'					
	Detour Road ℄	PC	17+90.92	4629.73	5127.46																
	Detour Road ℄	PT	18+60.84	4685.52	5086.98																
(25)	Detour Road ℄	PI	20+61.81	4807.43	4927.20						73°15'23"Rt	180°15'33"	31.79'	40.64'	23.63'	7.82'					
	Detour Road ℄	PC	20+38.18	4793.10	4945.98																
	Detour Road ℄	PT	20+78.82	4829.55	4935.51																
(26)	Detour Road ℄	PI	25+99.40	5316.85	5118.67						79°34'47"Lt	114°35'30"	50.00'	69.45'	41.64'	15.07'					
	Detour Road ℄	PC	25+57.76	5277.87	5104.02																
	Detour Road ℄	PT	26+27.21	5338.31	5082.98																

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	NAME	DATE
DESIGN	WJS	05/13
DRAWN	ZDR	05/13
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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

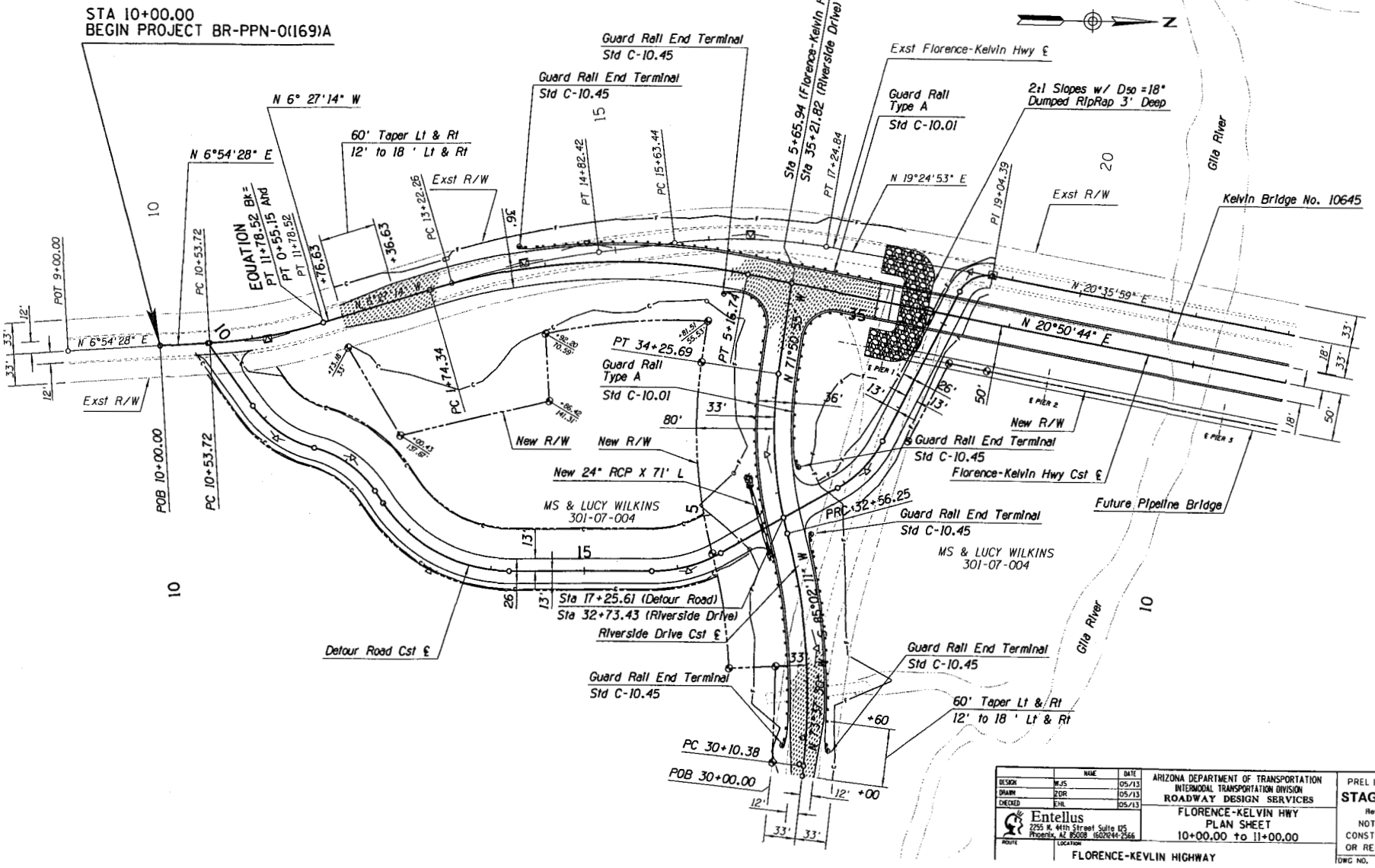
GEOMETRIC DATA SHEET

ROUTE	LOCATION
	FLORENCE-KELVIN HIGHWAY

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

DWG NO. C-01.05

DATE- | LOCATION- | REVISIONS- | FINISHED PLANS- | SURVEY NO.



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

	NAME	DATE
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ROUTE | LOCATION
FLORENCE-KEVLIN HIGHWAY

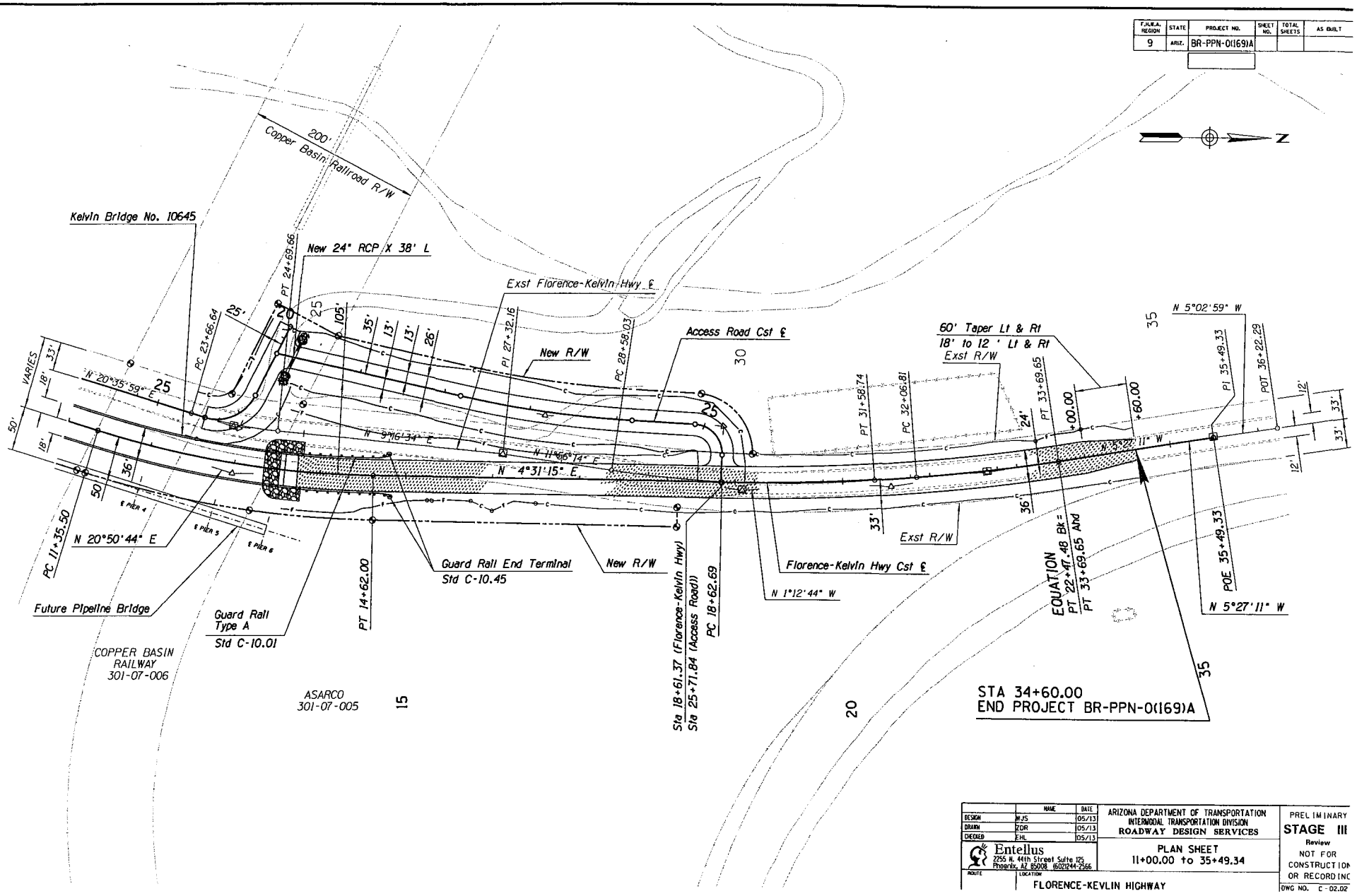
ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

FLORENCE-KELVIN HWY
PLAN SHEET
10+00.00 to 11+00.00

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

DWG NO. C-02.01

SURVEY MD. | FINISHED PLANS | REVISIONS | LOCATION | DATE



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

PLAN SHEET
11+00.00 to 35+49.34

ROUTE
LOCATION
FLORENCE-KEVLIN HIGHWAY

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

DWG NO. C-02.02

Centerline Geometric Data Sheet
Use this sheet ONLY if the project was surveyed

FHWA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUIL
9	ARIZ.	BR-PPN-0(169)A			

PLAN REF NO.	DESCRIPTION	Point Type	STATION	COORDINATES		Spiral Total					Spiral Main or Circular Curve							Spiral Curve			
				Northing	Easting	Total Delta	T	L	R+o	Ext	Δ	D	R	L	T	Ext	Super	Δ	L	o	
	Detour Road ℄	POT	27+14.94	5383.52	5007.80																
	Access Road ℄	POT	20+00.00	5365.91	5037.09																
(30)	Access Road ℄	PI	23+18.37	5671.50	5126.37						9°29'48"LI	4°46'29"	1200.00'	198.90'	99.68'	4.13'					
	Access Road ℄	PC	22+18.69	5575.82	5098.42																
	Access Road ℄	PT	24+17.59	5770.48	5138.16																
(31)	Access Road ℄	PI	25+22.23	5874.38	5150.53						89°23'05"Rt	173°37'25"	33.00'	51.48'	32.65'	13.42'					
	Access Road ℄	PC	24+89.58	5841.96	5146.67																
	Access Road ℄	PT	25+41.06	5870.87	5182.99																
	Access Road ℄	POT	25+71.84	5867.56	5213.59																

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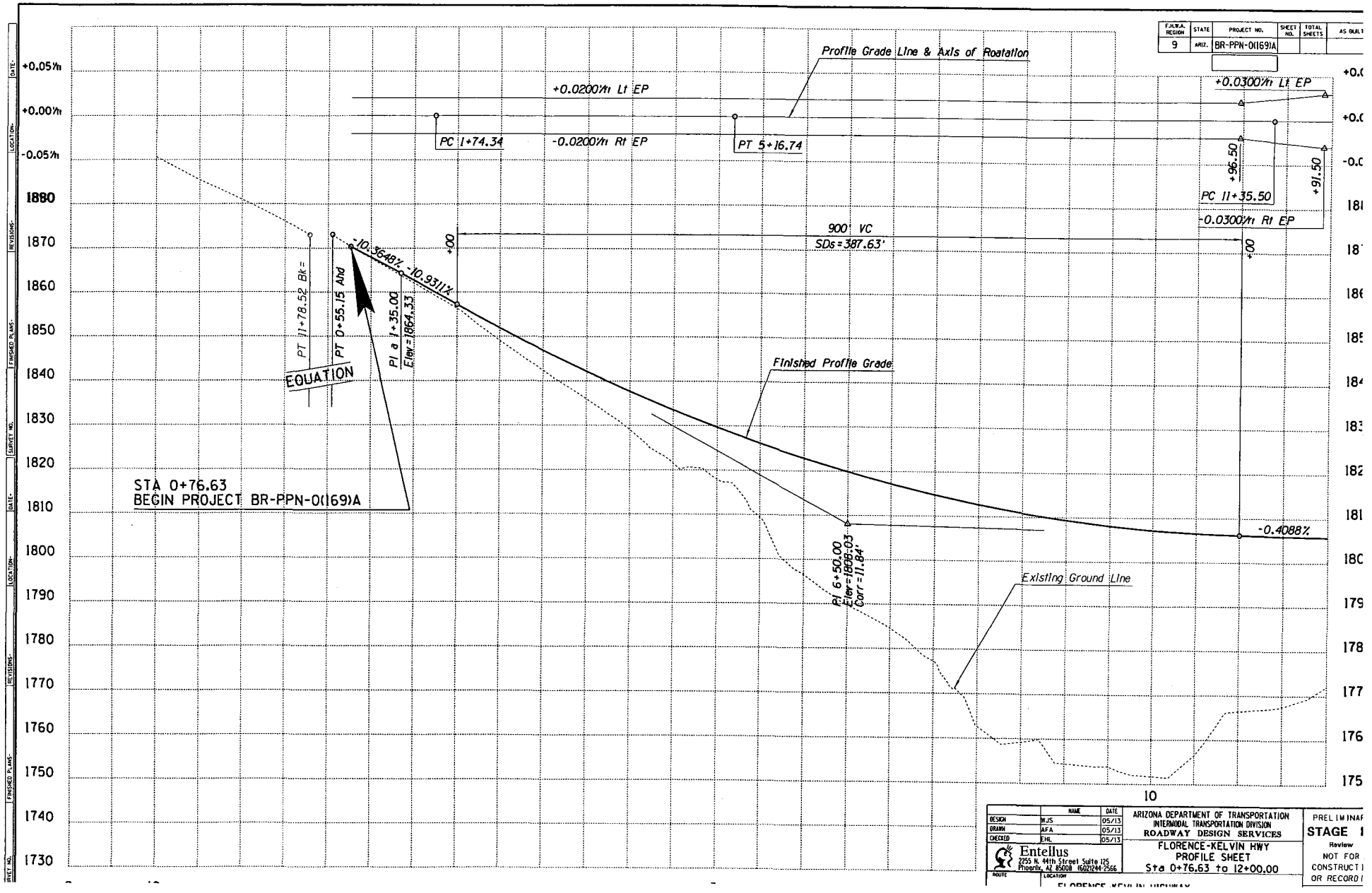
ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

GEOMETRIC DATA SHEET

ROUTE LOCATION FLORENCE-KEARNY HIGHWAY

PRELIMINA
STAGE
Review
NOT FOR
CONSTRUCT
OR RECORD

DATE- LOCATION- REVISIONS- FINISHED PLANS- SURVEY NO. DATE- LOCATION- REVISIONS- FINISHED PLANS- PROJ. NO.



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

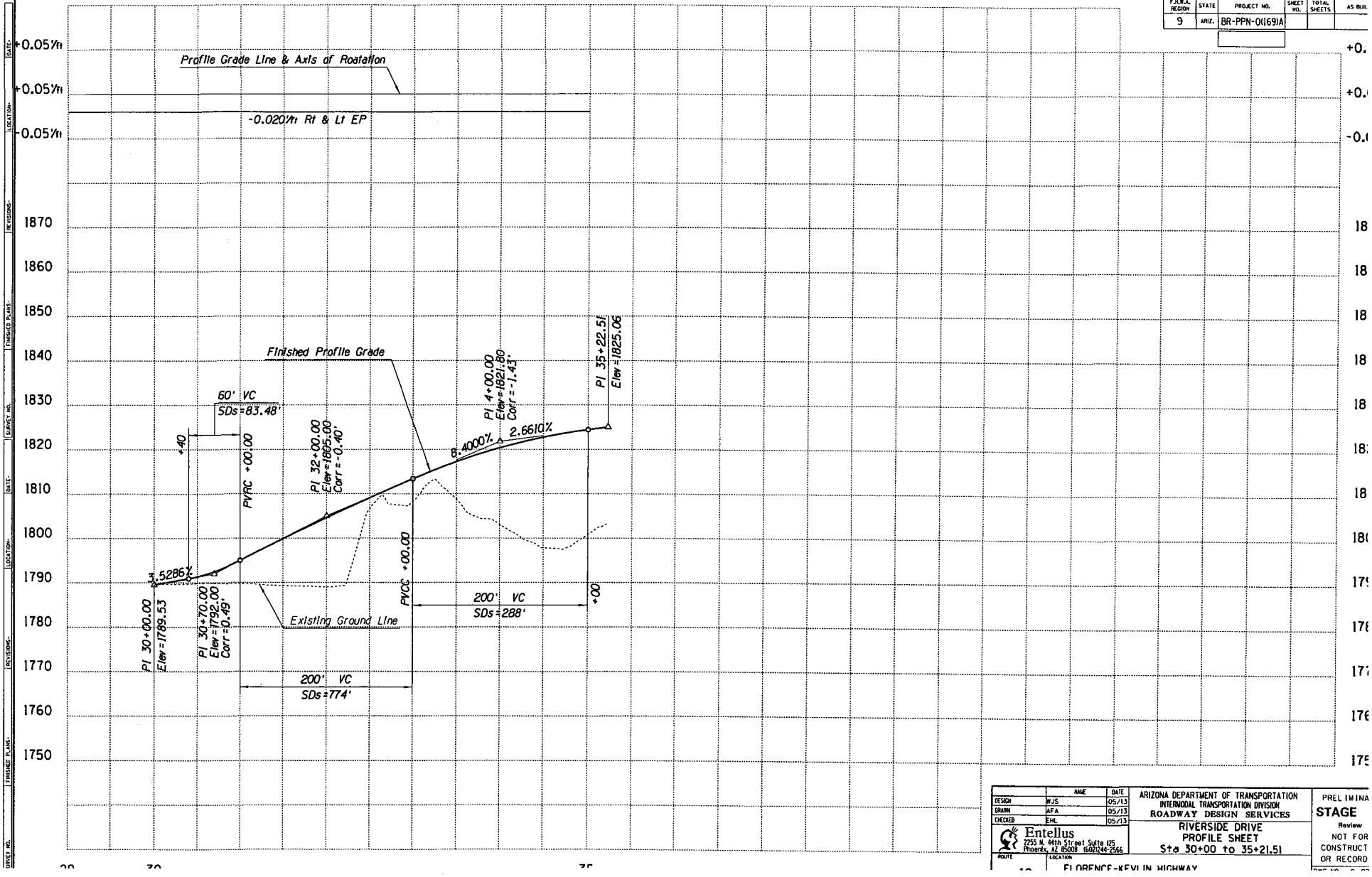
FLORENCE-KELVIN HWY
PROFILE SHEET
Sta 0+76.63 to 12+00.00

ROUTE | LOCATION | FLORENCE-KELVIN HIGHWAY

PRELIMINARY
STAGE I
Review
NOT FOR CONSTRUCTION
OR RECORDING

DATE | LOCATION | REVISIONS | FINISHED PLANS | SURVEY NO.

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUIL
9	ARIZ.	BR-PPN-0(169)A			



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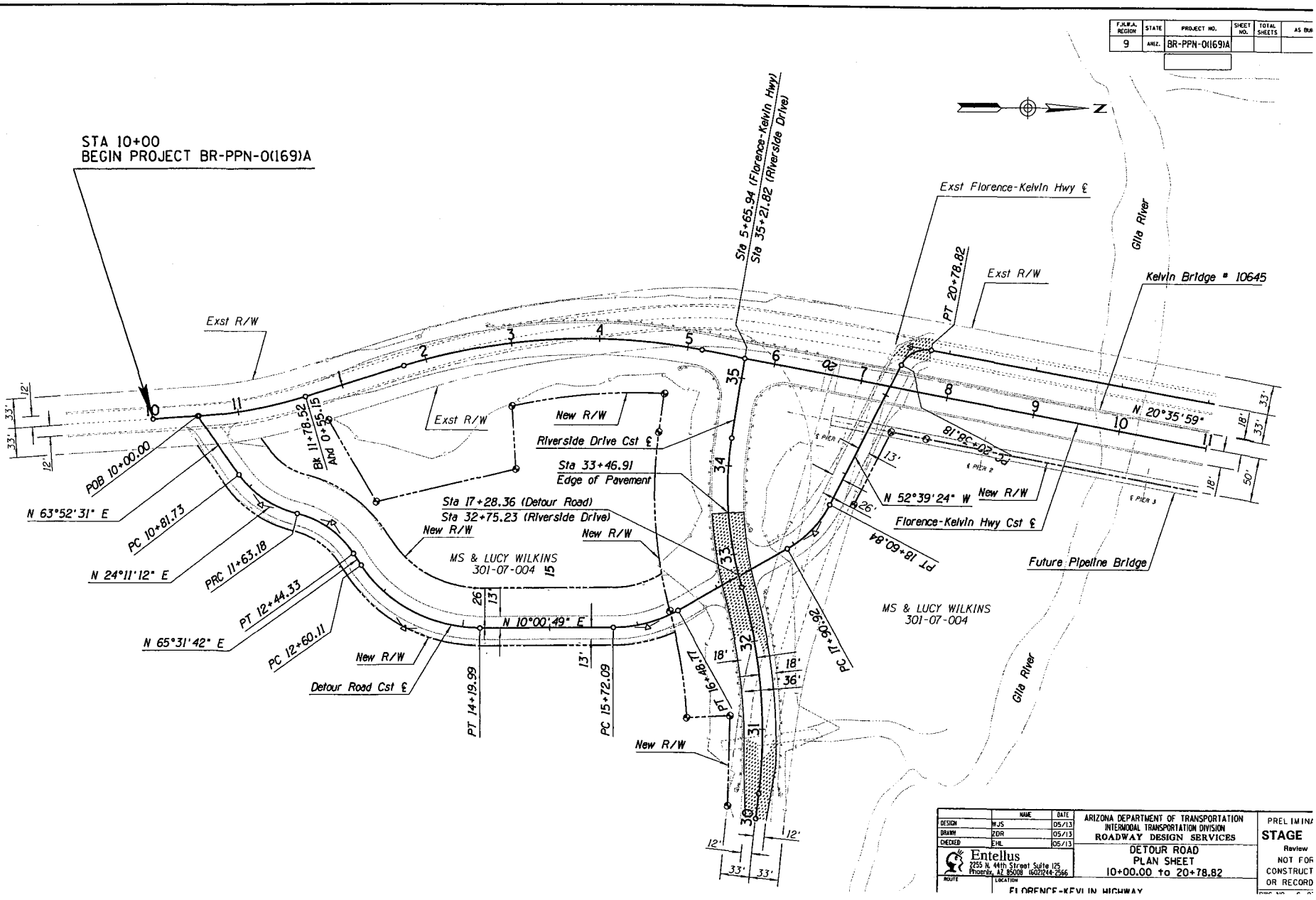
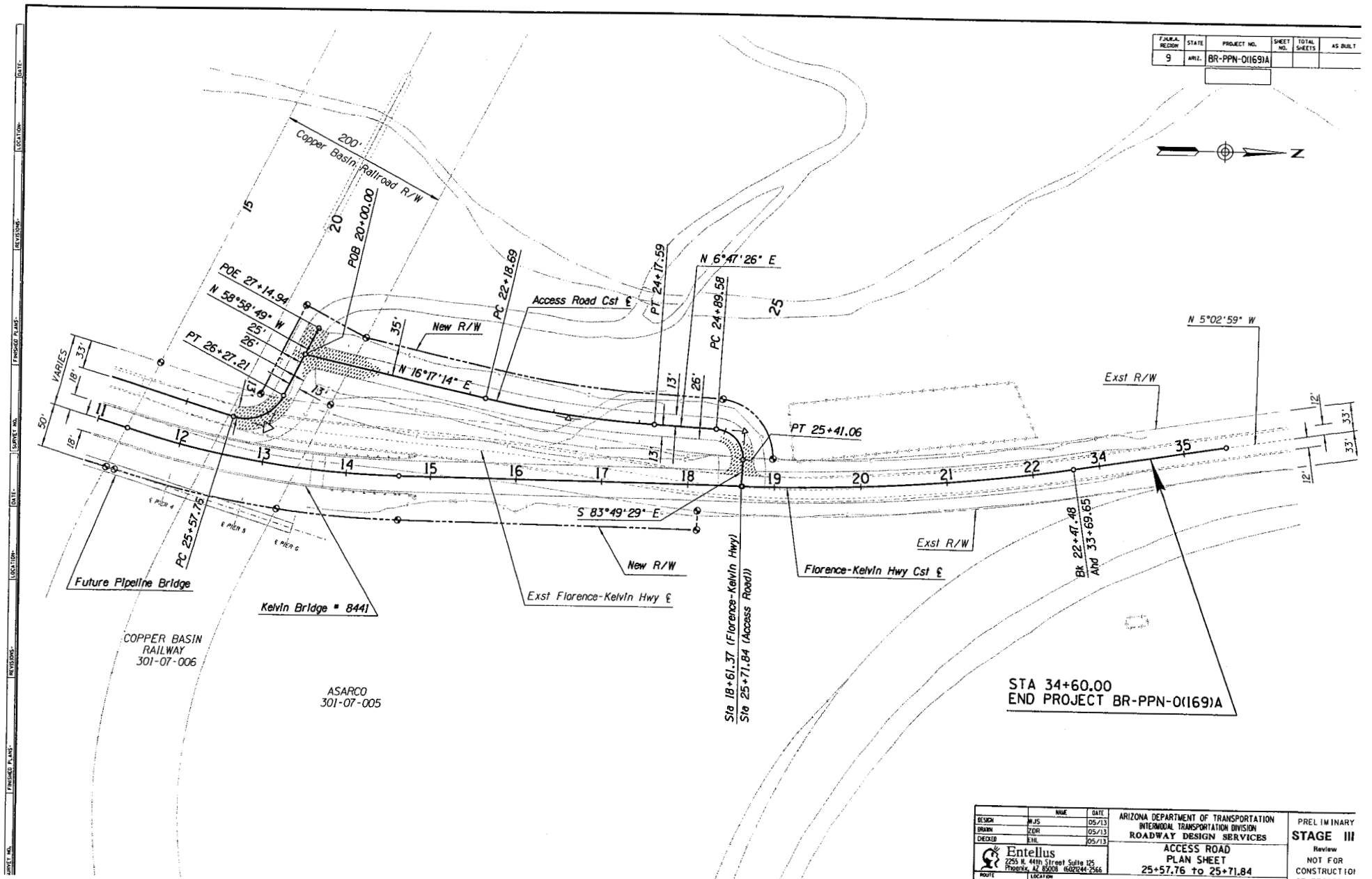
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

RIVERSIDE DRIVE
PROFILE SHEET
Sta 30+00 to 35+21.51

ROUTE | LOCATION
FLORENCE-KELVIN HIGHWAY

PRELIMINA
STAGE
Review
NOT FOR
CONSTRUCT
OR RECORD


STA 10+00
BEGIN PROJECT BR-PPN-0(169)A
Exst R/W
POB 10+00.00
N 63°52'31" E
PC 10+81.73
N 24°11'12" E
PRC 11+63.18
PT 12+44.33
N 65°31'42" E
PC 12+60.11
New R/W
Detour Road Cst ℄
PT 14+19.99
PC 15+72.09
New R/W
Bk 11+78.52
Ahd 0+55.15
Exst R/W
New R/W
Riverside Drive Cst ℄
Sta 33+46.91
Edge of Pavement
Sta 17+28.36 (Detour Road)
Sta 32+75.23 (Riverside Drive)
New R/W
New R/W
MS & LUCY WILKINS
301-07-004
15
N 10°00'49" E
Sta 5+65.94 (Florence-Kelvin Hwy)
Sta 35+21.82 (Riverside Drive)
PT 16+48.77
PC 17+90.28
MS & LUCY WILKINS
301-07-004
Exst Florence-Kelvin Hwy ℄
PT 20+78.82
Exst R/W
Gila River
Kelvin Bridge # 10645
N 20°35'59"
81°BC 2+02.33
N 52°39'24" W
New R/W
Florence-Kelvin Hwy Cst ℄
PT 18+60.84
Future Pipeline Bridge
Gila River
N
ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES
DETOUR ROAD
PLAN SHEET
10+00.00 to 20+78.82
Entellus
2755 N. 44th Street Suite 125
Phoenix, AZ 85008 (602)244-2566
PRELIMINARY
STAGE
Review
NOT FOR CONSTRUCTION
OR RECORD



F.A.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

	NAME	DATE
DESIGN	MJS	05/13
DRAWN	ZDR	05/13
CHECKED	EHL	05/13

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Phoenix, AZ 85008 (602)244-2566

ROUTE

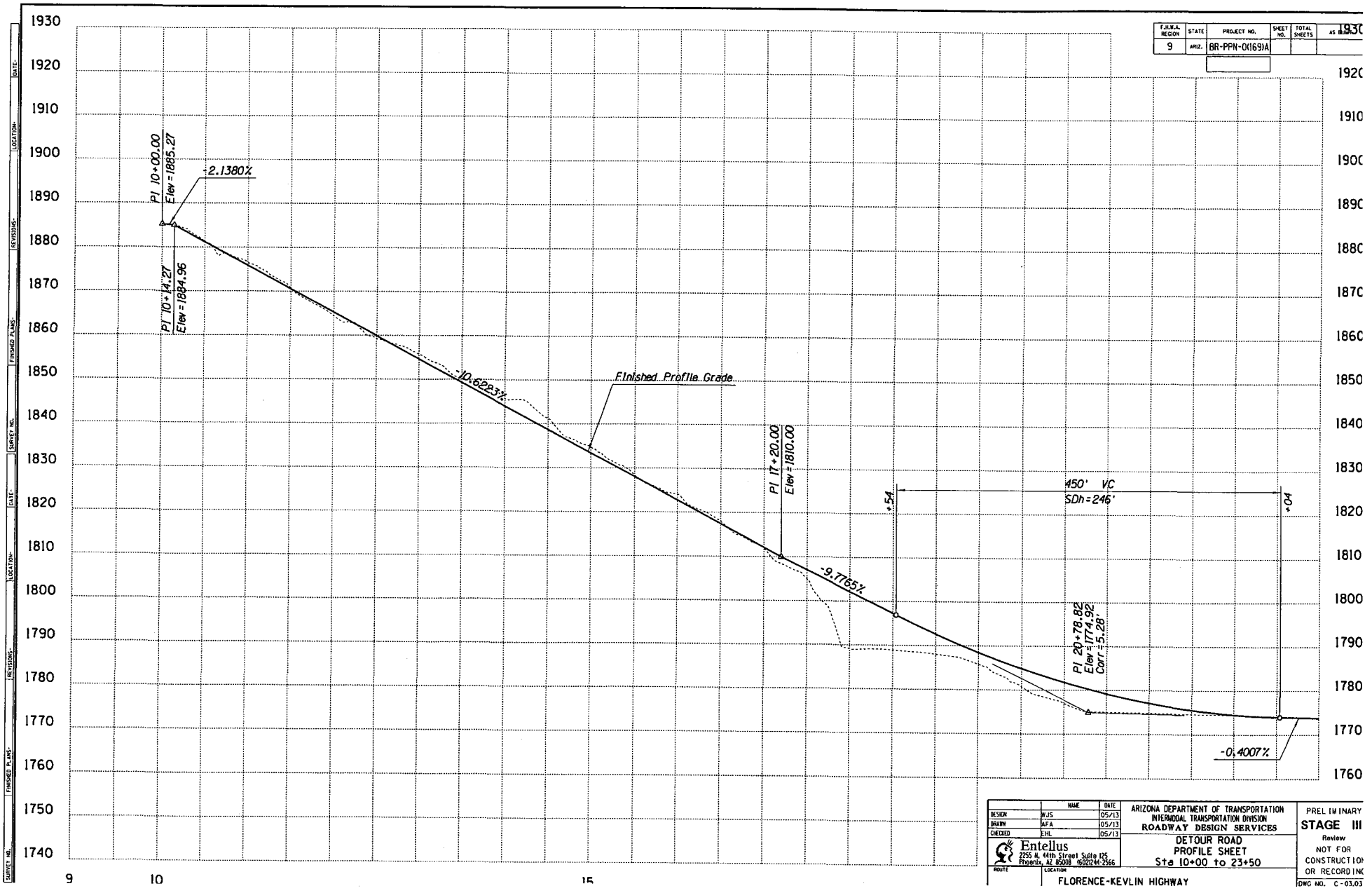
LOCATION FLORENCE-KELVIN HIGHWAY

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

ACCESS ROAD
PLAN SHEET
25+57.76 to 25+71.84

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE | SURVEY NO. | FINISHED PLANS | REVISIONS | LOCATION | DATE



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

	NAME	DATE
DESIGN	WJS	05/13
DRAWN	AFA	05/13
CHECKED	EHL	05/13

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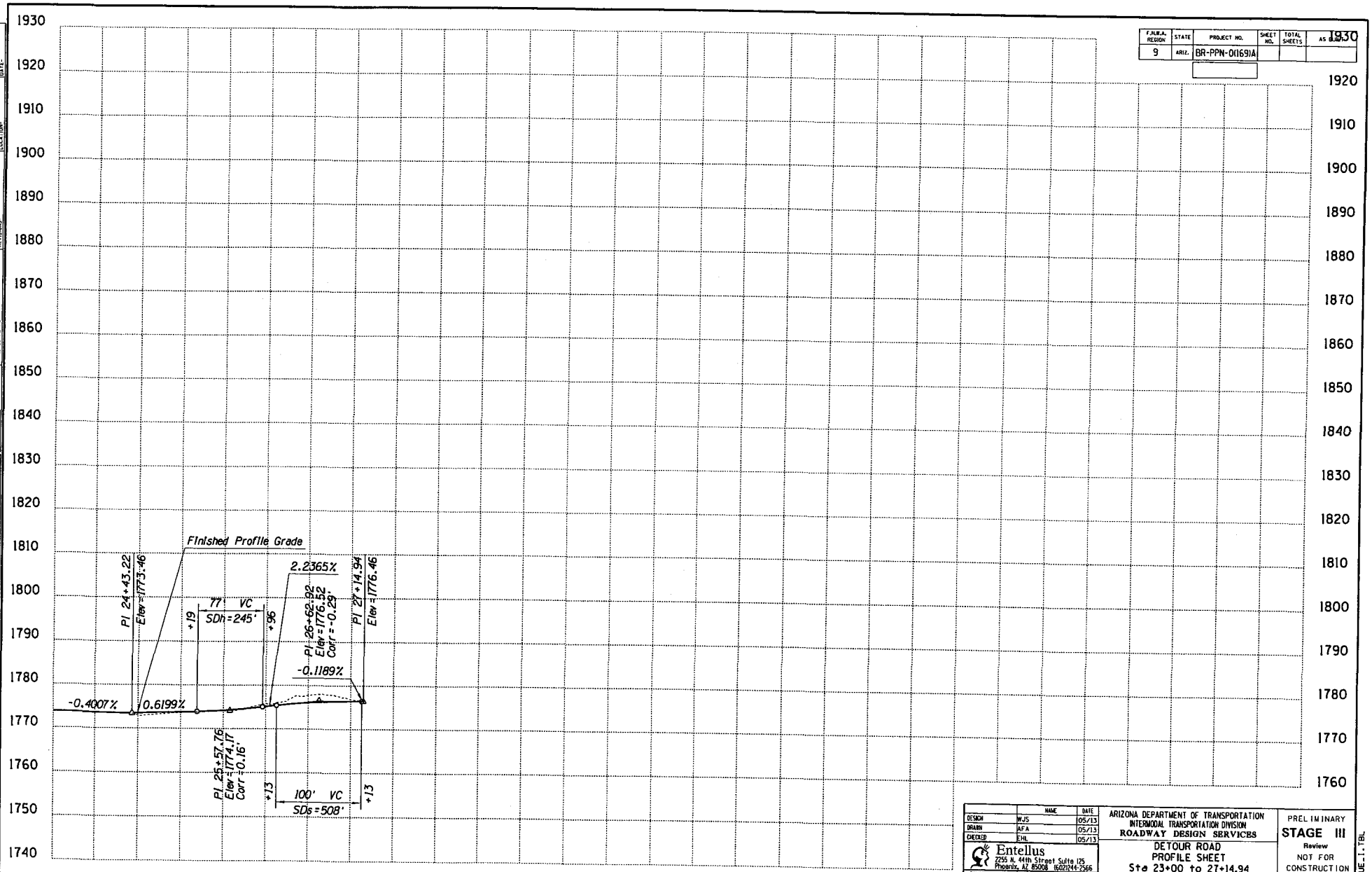
ROUTE | LOCATION: FLORENCE-KEVLIN HIGHWAY

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

DETOUR ROAD
PROFILE SHEET
Sta 10+00 to 23+50

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION
OR RECORDING

DWG NO. C-03.03



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

	NAME	DATE
DESIGN	WJS	05/13
DRAWN	AFA	05/13
CHECKED	EHL	05/13

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

DETOUR ROAD
PROFILE SHEET
Sta 23+00 to 27+14.94

ROUTE | LOCATION: FLORENCE-KEVLIN HIGHWAY

TRACS NO. | BR-PPN-0(169)A

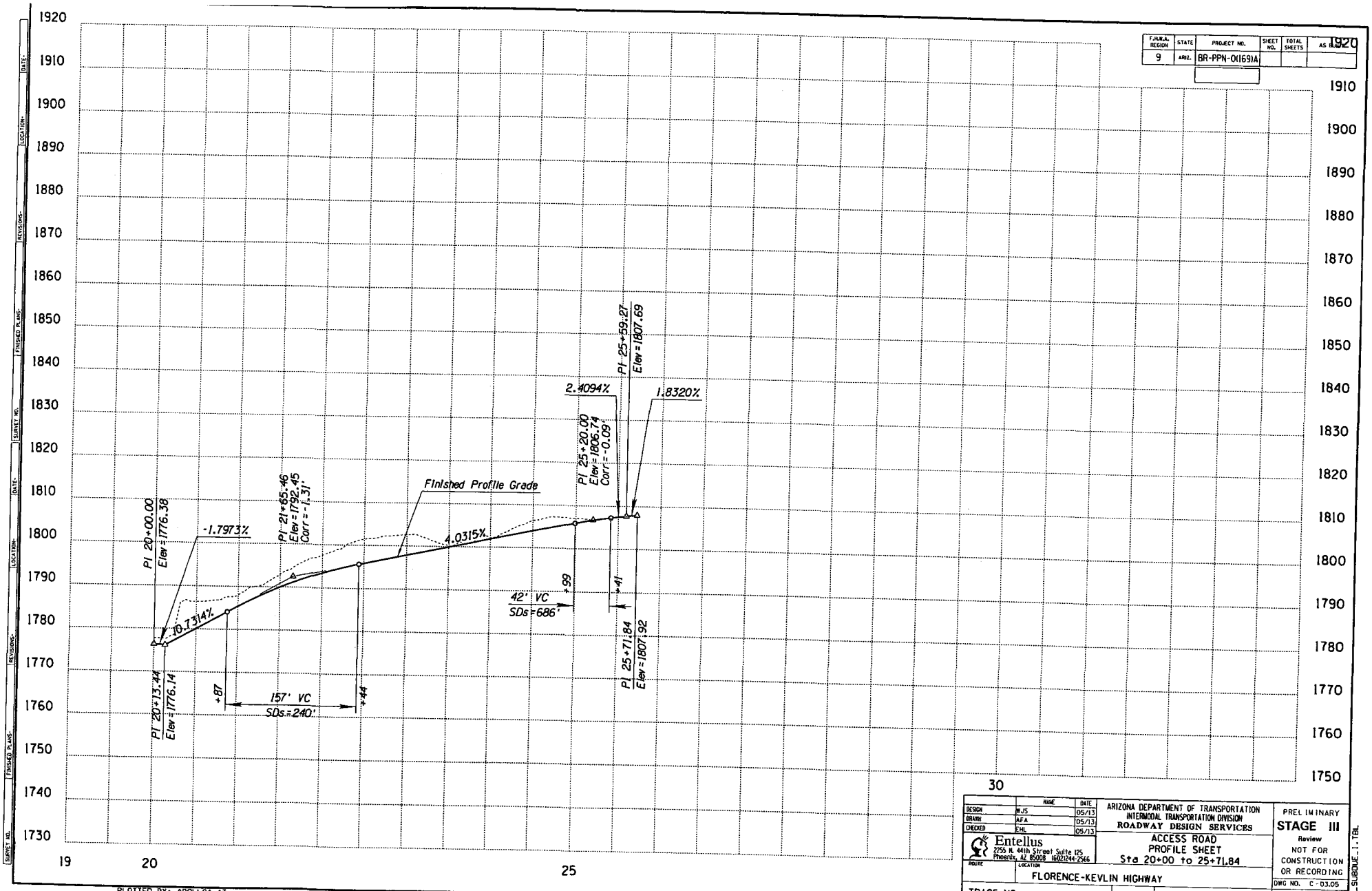
PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

DWG NO. C-03.04

24 OF ___

ADOT_SUBDUE_1.TBL

PLOTTED BY: AROLLOA AT 8:10:00 PM 10/22/2013 P:\800\860005\CADD\Sheets\Roadway\RRRRR5-R5.dgn



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

	NAME	DATE
DESIGN	WJS	05/13
DRAWN	AFA	05/13
CHECKED	EHL	05/13

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADWAY DESIGN SERVICES

ACCESS ROAD
PROFILE SHEET
Sta 20+00 to 25+71.84

ROUTE | LOCATION: FLORENCE-KEVLIN HIGHWAY

TRACS NO. | BR-PPN-0(169)A

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

DWG NO. C-03.05

25 OF

PLOTTED BY: AROLLOA AT 8:10:02 PM 10/22/2013 P:\800\860005\CADD\Sheets\Roadway\860005v06.dgn

ADOT-SUBDUE_1.TBL

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

TRAFFIC CONTROL NOTES

1. THE TRAFFIC CONTROL PLANS REPRESENT A SUGGESTED METHOD FOR TRAFFIC CONTROL DURING CONSTRUCTION. THE CONTRACTOR MAY PREPARE ANOTHER TRAFFIC CONTROL PLAN IN ACCORDANCE WITH SECTION 701 OF THE STANDARD SPECIFICATIONS. ALL TRAFFIC CONTROL PLANS ARE SUBJECT TO APPROVAL OF THE ENGINEER BEFORE BEGINNING CONSTRUCTION. TRAFFIC CONTROL PLANS ARE TO BE PREPARED IN ACCORDANCE WITH THE MUTCD PART VI AND ADOT SUPPLEMENT TO PART VI.
2. COORDINATION WILL BE REQUIRED WITH ADJACENT CONSTRUCTION PROJECTS. THE ENGINEER SHALL ULTIMATELY DECIDE THE APPROPRIATE WORK ACTIVITIES IN ORDER TO COORDINATE TRAFFIC CONTROL.
3. ADJUSTMENTS TO THE DETAILS OF THESE TRAFFIC CONTROL PLANS AND REQUIREMENTS MAY BE NECESSARY DUE TO CONSTRUCTION ACTIVITIES, AS DIRECTED BY THE ENGINEER.
4. THE CONTRACTOR SHALL MAINTAIN TRAFFIC ON ALL EXISTING LANES ON WEEKENDS, ON HOLIDAYS, NIGHTS AND AS DIRECTED BY THE ENGINEER.
5. ALL EXISTING SIGNS IN CONFLICT WITH THE CONSTRUCTION SIGNS SHALL BE REMOVED, RELOCATED OR COVERED IN PLACE, AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL STORE AND REINSTALL ITEMS WHICH HAVE BEEN REMOVED OR RELOCATED IN A MANNER APPROVED BY THE ENGINEER.
6. THE RETRO-REFLECTIVE SHEETING ON ALL CONSTRUCTION SIGNS SHALL MEET THE CRITERIA ESTABLISHED IN SECTION 1007 OF THE ADOT STANDARD SPECIFICATIONS.
7. ALL CONSTRUCTION SIGNS SHALL HAVE BLACK LETTERS ON AN ORANGE BACKGROUND, EXCEPT AS OTHERWISE NOTED.
8. FOR SIGNS INSTALLED ON EMBEDDED POSTS, SIGN MOUNTING HEIGHT IS A MINIMUM OF 7 FEET AS MEASURED FROM THE BOTTOM OF THE SIGN TO THE NEAR EDGE OF THE PAVEMENT. FOR SIGNS INSTALLED ON SPRING OR RIGID STANDS, SIGN MOUNTING HEIGHT IS A MINIMUM OF 1 FOOT ABOVE THE PAVEMENT.
9. FOR SIGNS INSTALLED ON EMBEDDED POSTS, THE NEAREST EDGE OR CORNER OF A SIGN SHOULD BE 12 FEET FROM THE NEAREST EDGE OF PAVEMENT.
10. EMBEDDED POSTS MAY BE USED IN PLACE OF SPRING OR RIGID SIGN STANDS, AS LONG AS THEY ARE NOT PLACED THROUGH NEW PAVEMENT.
11. TWO FLAGS SHALL BE MOUNTED ON TOP OF ALL CONSTRUCTION SIGNS EXCEPT THE "END OF WORK THANK YOU" SIGN. TYPE "A" FLASHING WARNING LIGHTS SHALL BE REQUIRED ON ALL NIGHTTIME CONSTRUCTION SIGNS EXCEPT THE "END OF WORK THANK YOU" SIGN.
12. CONSTRUCTION SIGNS SHALL NOT BE DISPLAYED TO TRAFFIC MORE THAN 24 HOURS PRIOR TO THE ACTUAL START OF CONSTRUCTION. THESE SIGNS MAY BE INSTALLED SOONER BUT THEY MUST BE COVERED OR TURNED AWAY FROM TRAFFIC. THE COST FOR COVERING OR TURNING THEM SHALL BE CONSIDERED PART OF THE SIGN INSTALLATION COST. NO FURTHER COMPENSATION WILL BE MADE. THESE SIGNS SHALL BE REMOVED WITHIN 24 HOURS AFTER COMPLETION OF THE CONSTRUCTION ACTIVITIES.
13. WHEN TRAFFIC CONTROL DEVICES ARE NOT IN USE, THEY SHALL BE MOVED AT LEAST 30 FEET FROM THE ROADWAY.
14. DRUMS, TYPE 2 BARRICADES AND VERTICAL PANELS SHALL BE PLACED 40 FEET ON CENTER IN TAPERS AND 80 FEET ON CENTER IN TANGENTS, EXCEPT AS OTHERWISE NOTED ON THE PLANS.
15. THE CONTRACTOR MAY SUBSTITUTE TYPE 1 BARRICADES FOR TYPE 2 BARRICADES AS LONG AS THE REFLECTIVE AREA ON THE TOP PANEL OF THE TYPE 1 BARRICADE IS EQUIVALENT OR GREATER THAN THE REFLECTIVE AREA OF A TYPE 2 BARRICADE.
16. A TYPE "C" STEADY-BURNING YELLOW LIGHT SHALL BE MOUNTED ON EVERY DRUM, BARRICADE, OR VERTICAL PANEL IN TAPERS, AND ON ALTERNATING DRUMS, BARRICADES, OR VERTICAL PANELS IN TANGENTS.
17. DURING NIGHTTIME, THE CONTRACTOR SHALL NOT UTILIZE CONES FOR CHANNELIZATION DEVICES UNLES OTHERWISE DIRECTED BY THE ENGINEER.
18. THE CONTRACTOR SHALL UTILIZE A FLASHING ARROW PANEL IN THE SEQUENTIAL CHEVRON MODE FOR EACH CLOSURE OF A THROUGH LANE. THE CONTRACTOR SHALL NOT UTILIZE A FLASHING ARROW PANEL IN CONNECTION WITH ANY SHIFTING TAPER.
19. THE CONTRACTOR SHALL POSITION CHANGEABLE MESSAGE BOARDS IN ADVANCE OF EACH ROAD CLOSURE OR AS DIRECTED BY THE ENGINEER.
20. FOR TEMPORARY CONCRETE BARRIER DETAILS, SEE ADOT STANDARD DRAWINGS. BM-1 (WHITE) OR BM-2 (YELLOW) BARRIER MARKERS CONFORMING TO ADOT STANDARD DRAWINGS SHALL BE INSTALLED AT 25 FOOT SPACING. THE INSTALLED PRICE FOR THE MARKERS SHALL BE CONSIDERED A PART OF THE BARRIER COST.
21. THE CONTRACTOR SHALL PROVIDE FLAGGERS AND (DPS) AS DIRECTED BY THE ENGINEER DURING THE INSTALLATION AND REMOVAL OF TEMPORARY CONCRETE BARRIER.
22. FOR SAND BARREL CRASH CUSHION DETAILS, SEE ADOT STANDARD DRAWINGS.
23. ALL EXISTING PAVEMENT MARKINGS IN CONFLICT WITH THE TRAFFIC CONTROL STRIPING PLAN SHALL BE REMOVED BY METHODS APPROVED BY THE ENGINEER. FOR A DAYTIME SHIFT IN TRAFFIC, THE SHIFT MAY BE ACCOMPLISHED THROUGH CHANNELIZING DEVICES WITH THE EXISTING PAVEMENT MARKINGS REMAINING IN PLACE.
24. WHEN STRIPE OBLITERATION IS NECESSARY, IT SHALL BE ACCOMPLISHED BY A METHOD THAT IS IN COMPLIANCE WITH OSHA'S 29 CFR, PART 1926, LEAD EXPOSURE IN CONSTRUCTION; INTERIM FINAL RULE. IF LEAD EXPOSURE PREVENTION MEASURES ARE REQUIRED, THE CONTRACTOR SHALL ENSURE THAT ALL OF THEIR PERSONNEL PRESENT ON THE JOB SITE ARE NOTIFIED OF THE ACTIVITY AND ADVISED OF NECESSARY PRECAUTIONS TO BE TAKEN TO AVOID CONTAMINATION BY LEAD COMPOUNDS. THE CONTRACTOR SHALL SUBMIT A LEAD EXPOSURE PREVENTION PLAN TO THE ENGINEER FOR REVIEW A MINIMUM OF 48 HOURS PRIOR TO THE START OF ANY STRIPING OBLITERATION ACTIVITIES. PAINTING OVER STRIPING DOES NOT CONSTITUTE STRIPE OBLITERATION.
25. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE TO THE SATISFACTION OF THE ENGINEER BY SWEEPING AND AIR-JET BLOWING, IMMEDIATELY PRIOR TO THE PLACEMENT OF ALL TEMPORARY PAVEMENT MARKINGS. THE ROADWAY SURFACE SHALL BE DRY.
26. SPEED LIMIT SIGNING IS SUBJECT TO REVIEW AND CHANGE BY THE ENGINEER AS DICTATED BY FIELD CONDITIONS.
27. SIGNING FOR DOUBLE FINES IN WORK ZONES, WHEN ALLOWED BY THE ENGINEER, SHALL GENERALLY CONFORM TO FIGURE SA-12 OF THE ADOT TRAFFIC CONTROL DESIGN GUIDELINES. SUCH SIGNING SHALL ONLY BE IN PLACE WHEN WORKERS ARE PRESENT IN ACCORDANCE WITH THE GUIDELINES FOR SIGNING FOR DOUBLE FINES IN WORK ZONES. THE COST FOR COVERING OR MOVING THE SIGNS BEFORE AND AFTER WORK PERIODS IS CONSIDERED INCIDENTAL TO THE CONTRACT.
27. ALL DRAWINGS ARE SCHEMATIC ONLY AND NOT TO SCALE.

TEMPORARY SIGN QUANTITIES		
FLORENCE-KELVIN HIGHWAY		
DESCRIPTION	UNIT	QUANTITIES
R1-1	DAY	3
R2-1	DAY	5
W21-4	DAY	3
DETOUR	DAY	2
STREET CLOSED / DETOUR	DAY	3

	NAME	DATE
DESIGN	WJS	05/13
DRAWN	AFA	05/13
CHECKED	EHL	05/13

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
TRAFFIC DESIGN SERVICES

TRAFFIC CONTROL NOTE

LOCATION: FLORENCE-KEVLIN HIGHWAY

TRACS NO. | BR-PPN-0(169)A

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

DWG NO. T-01.01

26 OF

ADOT_SUBDUE_1.TBL

MADE BY | DATE | DESCRIPTION OF REVISION

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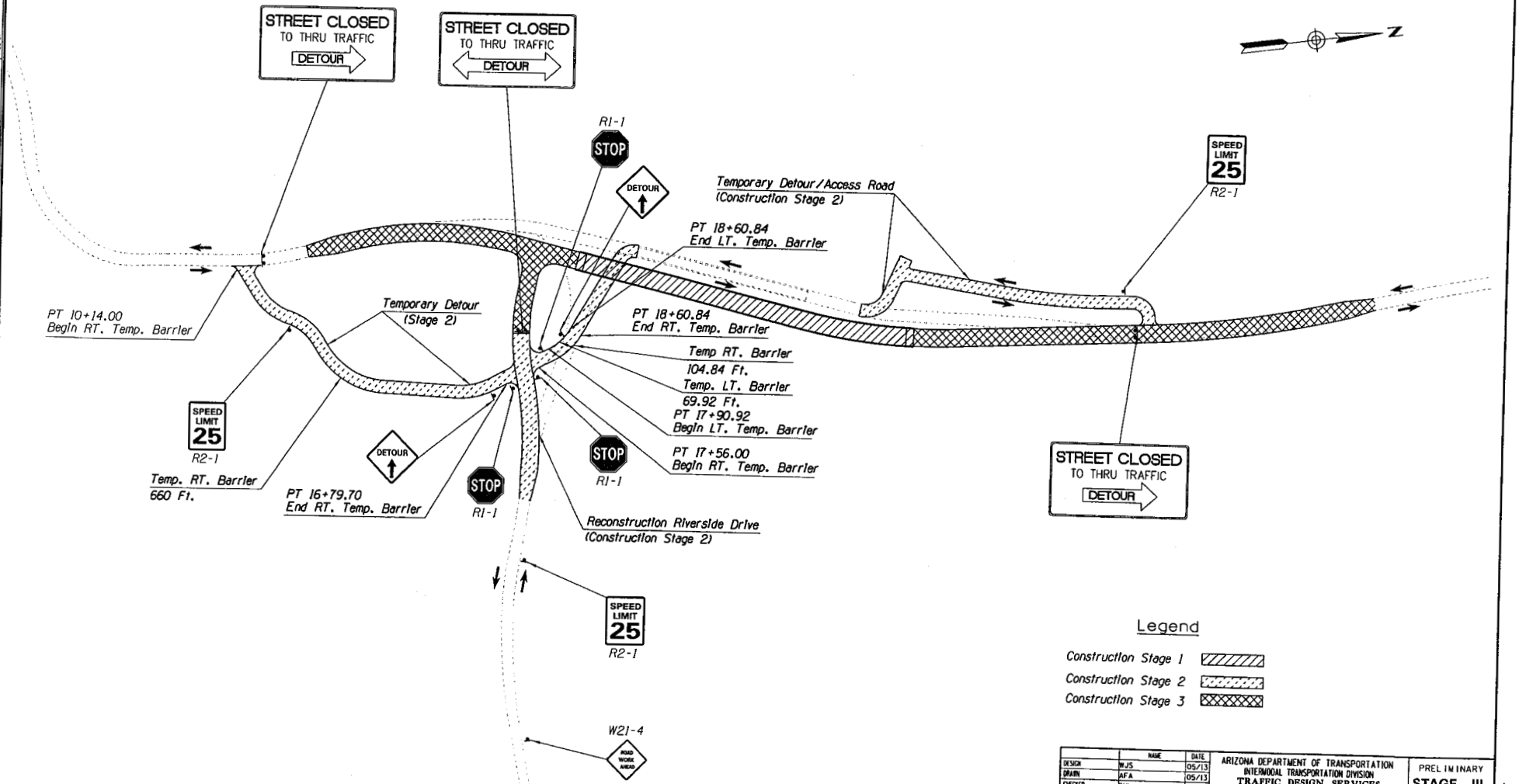
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			



Legend

Construction Stage 1

Construction Stage 2

Construction Stage 3

	NAME	DATE
DESIGN	WJS	05/13
DRAWN	AFA	05/13
CHECKED	EHL	05/13

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
TRAFFIC DESIGN SERVICES

TRAFFIC CONTROL
CONSTRUCTION STAGE 2

LOCATION
FLORENCE-KEVLIN HIGHWAY

TRACS NO.

BR-PPN-0(169)A

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

DWG NO. T-01.03

28 OF

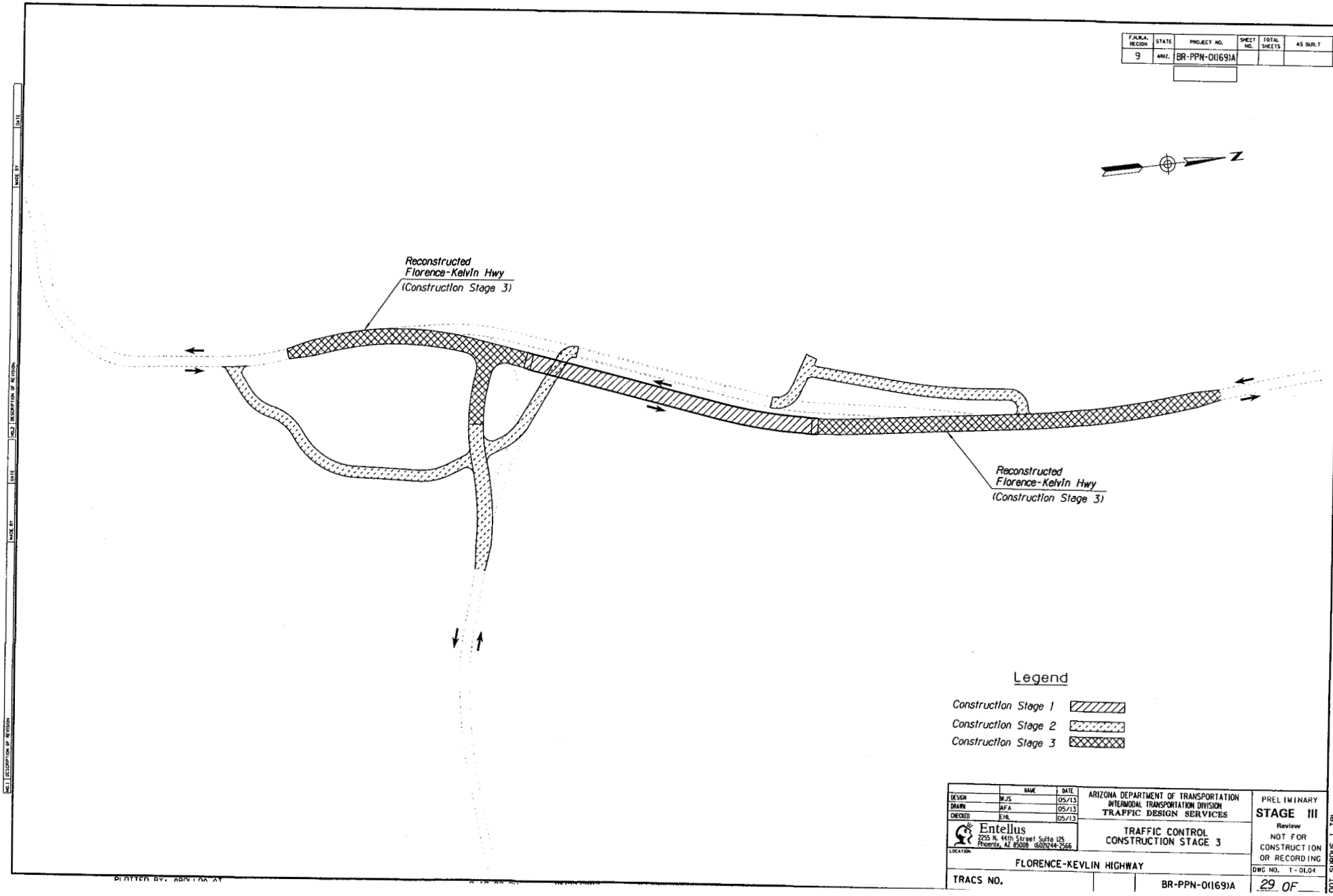
PLOTTED BY: AROLLOA AT

NO. | DESCRIPTION OF REVISION | MADE BY | DATE

007-SUBDUE_1.TBL

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

NO.	DESCRIPTION OF REVISION	DATE	MADE BY
NO.2	DESCRIPTION OF REVISION	DATE	MADE BY
NO.1	DESCRIPTION OF REVISION	DATE	MADE BY



	NAME	DATE
DESIGN	WJS	05/13
DRAWN	AFA	05/13
CHECKED	EHL	05/13

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
TRAFFIC DESIGN SERVICES

TRAFFIC CONTROL
CONSTRUCTION STAGE 3

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

LOCATION
FLORENCE-KEVLIN HIGHWAY

DWG NO. T-01.04

TRACS NO.

BR-PPN-0(169)A

29 OF ___

PLOTTED BY: ABRILOA AT

DOT_SUBDUE_1.TBL

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

MAINTENANCE OF TRAFFIC - FLORENCE-KELVIN HIGHWAY

PHASE NO.	CONSTRUCTION ACTIVITY	TRAFFIC CONTROL	COMMENTS
1.	CONSTRUCTION OF NEW FLORENCE-KELVIN BRIDGE.	THE EXISTING FLORENCE-KELVIN HIGHWAY WOULD REMAIN IN PLACE AND USED DURING THE CONSTRUCTION OF THE NEW BRIDGE.	THE PROPOSED KELVIN BRIDGE IS APPROXIMATELY 30 FEET HIGHER THAN THE CURRENT BRIDGE DECK BECAUSE OF THE REQUIRED RAILROAD CLEARANCE. THE SOUTH BRIDGE ABUTMENT WILL HAVE AN IMPACT TO THE RIVERSIDE DRIVE INTERSECTION, WHICH WILL REQUIRE TEMPORARY SHORING TO ENABLE THE USE OF THE INTERSECTION.
2 A.	PLACE THE ADVANCE WARNING SIGNS.	PLACE LONG TERM TRAFFIC CONTROL AS PER THE TRAFFIC CONTROL PLAN.	SETUP TO REMAIN IN PLACE FOR THE DURATION OF THE PROJECT. PLACE ON EMBEDDED POSTS.
2 B.	CONSTRUCTION OF TEMPORARY DETOUR. PLACE TEMPORARY HALF BARRIER, GUARD RAIL, PAVEMENT, SIGNS.		THE DETOUR WOULD ALSO REQUIRE THAT HALF OF THE IMPROVEMENTS BE MADE TO THE PROPOSED RIVERSIDE DRIVE. NORTH OF THE BRIDGE THE DETOUR WOULD MAKE USE OF THE NEW ACCESS ROAD THAT WILL SERVE THE EXISTING RESIDENCE CURRENTLY LOCATED NORTHWEST OF THE KELVIN BRIDGE.
3.	REMAINDER OF THE NEW FLORENCE-KELVIN HIGHWAY CONSTRUCTION.		
4.	OPEN FLORENCE-KELVIN HIGHWAY	REMOVE REMAINING TRAFFIC CONTROL.	

NO. | DESCRIPTION OF REVISION | MADE BY | DATE

	NAME	DATE
DESIGN	WJS	05/13
DRAWN	AFA	05/13
CHECKED	EHL	05/13

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
TRAFFIC DESIGN SERVICES

CONSTRUCTION SEQUENCE AND MAINTENANCE OF TRAFFIC

LOCATION: FLORENCE-KELVIN HIGHWAY

TRACS NO. BR-PPN-0(169)A

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

DWG NO. T-01.05

30 OF ___

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ADOT_SUBDUE_1.TBL

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

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13. WHEN TRAFFIC CONTROL DEVICES ARE NOT IN USE, THEY SHALL BE MOVED AT LEAST 30 FEET FROM THE ROADWAY.
14. DRUMS, TYPE 2 BARRICADES AND VERTICAL PANELS SHALL BE PLACED 40 FEET ON CENTER IN TAPERS AND 80 FEET ON CENTER IN TANGENTS, EXCEPT AS OTHERWISE NOTED ON THE PLANS.
15. THE CONTRACTOR MAY SUBSTITUTE TYPE 1 BARRICADES FOR TYPE 2 BARRICADES AS LONG AS THE REFLECTIVE AREA ON THE TOP PANEL OF THE TYPE 1 BARRICADE IS EQUIVALENT OR GREATER THAN THE REFLECTIVE AREA OF A TYPE 2 BARRICADE.
16. A TYPE "C" STEADY-BURNING YELLOW LIGHT SHALL BE MOUNTED ON EVERY DRUM, BARRICADE, OR VERTICAL PANEL IN TAPERS, AND ON ALTERNATING DRUMS, BARRICADES, OR VERTICAL PANELS IN TANGENTS.
17. DURING NIGHTTIME, THE CONTRACTOR SHALL NOT UTILIZE CONES FOR CHANNELIZATION DEVICES UNLES OTHERWISE DIRECTED BY THE ENGINEER.
18. THE CONTRACTOR SHALL UTILIZE A FLASHING ARROW PANEL IN THE SEQUENTIAL CHEVRON MODE FOR EACH CLOSURE OF A THROUGH LANE. THE CONTRACTOR SHALL NOT UTILIZE A FLASHING ARROW PANEL IN CONNECTION WITH ANY SHIFTING TAPER.
19. THE CONTRACTOR SHALL POSITION CHANGEABLE MESSAGE BOARDS IN ADVANCE OF EACH ROAD CLOSURE OR AS DIRECTED BY THE ENGINEER.
20. FOR TEMPORARY CONCRETE BARRIER DETAILS, SEE ADOT STANDARD DRAWINGS. BM-1 (WHITE) OR BM-2 (YELLOW) BARRIER MARKERS CONFORMING TO ADOT STANDARD DRAWINGS SHALL BE INSTALLED AT 25 FOOT SPACING. THE INSTALLED PRICE FOR THE MARKERS SHALL BE CONSIDERED A PART OF THE BARRIER COST.
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22. FOR SAND BARREL CRASH CUSHION DETAILS, SEE ADOT STANDARD DRAWINGS.
23. ALL EXISTING PAVEMENT MARKINGS IN CONFLICT WITH THE TRAFFIC CONTROL STRIPING PLAN SHALL BE REMOVED BY METHODS APPROVED BY THE ENGINEER. FOR A DAYTIME SHIFT IN TRAFFIC, THE SHIFT MAY BE ACCOMPLISHED THROUGH CHANNELIZING DEVICES WITH THE EXISTING PAVEMENT MARKINGS REMAINING IN PLACE.
24. WHEN STRIPE OBLITERATION IS NECESSARY, IT SHALL BE ACCOMPLISHED BY A METHOD THAT IS IN COMPLIANCE WITH OSHA'S 29 CFR, PART 1926, LEAD EXPOSURE IN CONSTRUCTION; INTERIM FINAL RULE. IF LEAD EXPOSURE PREVENTION MEASURES ARE REQUIRED, THE CONTRACTOR SHALL ENSURE THAT ALL OF THEIR PERSONNEL PRESENT ON THE JOB SITE ARE NOTIFIED OF THE ACTIVITY AND ADVISED OF NECESSARY PRECAUTIONS TO BE TAKEN TO AVOID CONTAMINATION BY LEAD COMPOUNDS. THE CONTRACTOR SHALL SUBMIT A LEAD EXPOSURE PREVENTION PLAN TO THE ENGINEER FOR REVIEW A MINIMUM OF 48 HOURS PRIOR TO THE START OF ANY STRIPING OBLITERATION ACTIVITIES. PAINTING OVER STRIPING DOES NOT CONSTITUTE STRIPE OBLITERATION.
25. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE TO THE SATISFACTION OF THE ENGINEER BY SWEEPING AND AIR-JET BLOWING, IMMEDIATELY PRIOR TO THE PLACEMENT OF ALL TEMPORARY PAVEMENT MARKINGS. THE ROADWAY SURFACE SHALL BE DRY.
26. SPEED LIMIT SIGNING IS SUBJECT TO REVIEW AND CHANGE BY THE ENGINEER AS DICTATED BY FIELD CONDITIONS.
27. SIGNING FOR DOUBLE FINES IN WORK ZONES, WHEN ALLOWED BY THE ENGINEER, SHALL GENERALLY CONFORM TO FIGURE SA-12 OF THE ADOT TRAFFIC CONTROL DESIGN GUIDELINES. SUCH SIGNING SHALL ONLY BE IN PLACE WHEN WORKERS ARE PRESENT IN ACCORDANCE WITH THE GUIDELINES FOR SIGNING FOR DOUBLE FINES IN WORK ZONES. THE COST FOR COVERING OR MOVING THE SIGNS BEFORE AND AFTER WORK PERIODS IS CONSIDERED INCIDENTAL TO THE CONTRACT.
28. ALL DRAWINGS ARE SCHEMATIC ONLY AND NOT TO SCALE.

NO.	DESCRIPTION OF REVISION	DATE	MADE BY
NO.1			
NO.2			

	NAME	DATE
DESIGN	MJS	05/13
DRAWN	AFA	05/13
CHECKED	EML	05/13

Entellus
2255 N. 44th Street Suite 125
Phoenix, AZ 85008 (602)244-2566

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
TRAFFIC DESIGN SERVICES

TRAFFIC CONTROL
GENERAL NOTES

LOCATION: FLORENCE-KEVLIN HIGHWAY

TRACS NO. BR-PPN-0(169)A

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

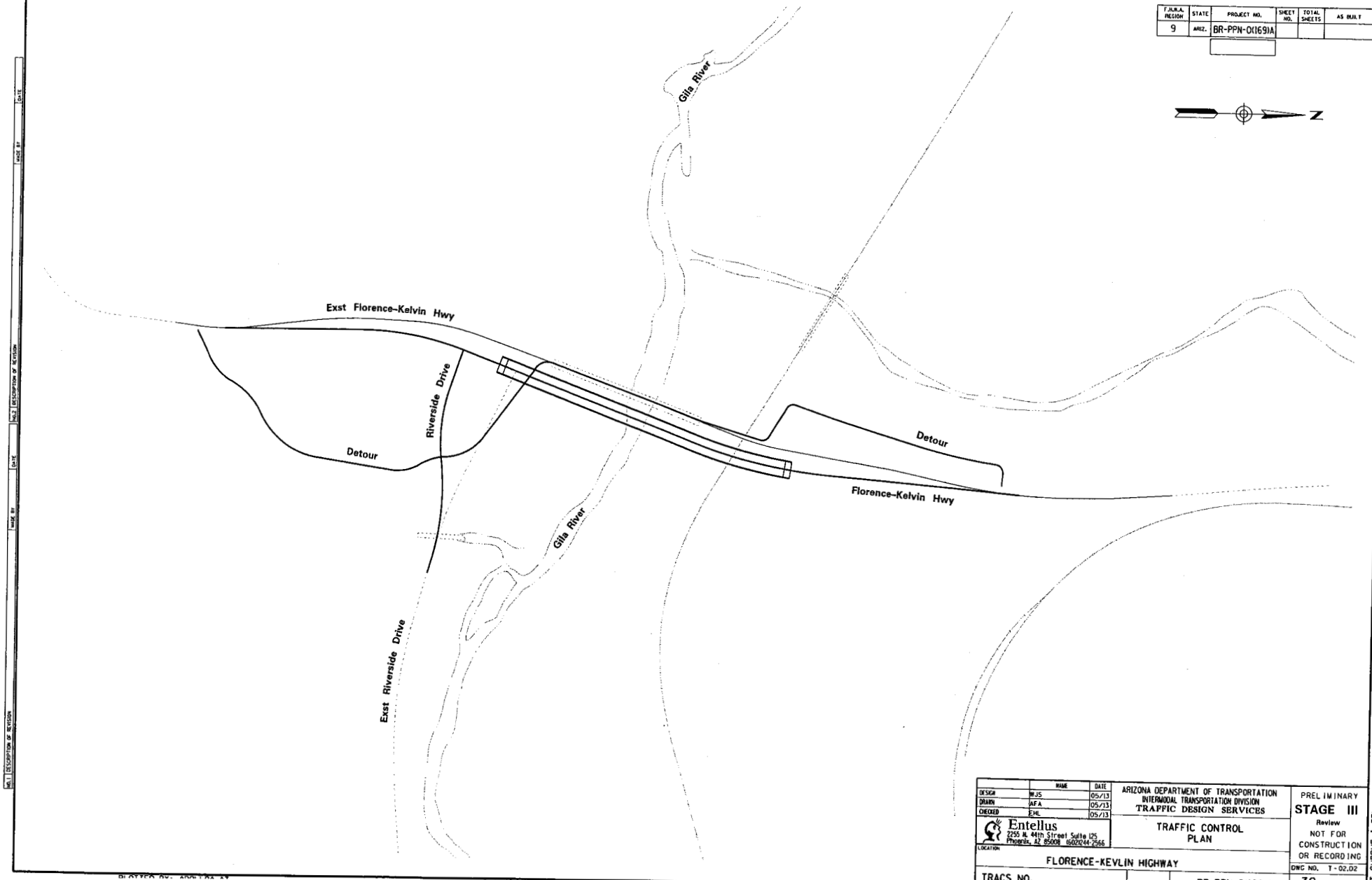
DWG NO. T-02.01

31 OF ___

ADOT_SUBDUE_1.TBL

PLOTTED BY: AROLLOA AT 8:10:13 PM

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			



NO.	DESCRIPTION OF REVISION	DATE	MADE BY

	NAME	DATE
DESIGN	WJS	05/13
DRAWN	AFA	05/13
CHECKED	EML	05/13

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
TRAFFIC DESIGN SERVICES

TRAFFIC CONTROL PLAN

LOCATION: FLORENCE-KEVLIN HIGHWAY

TRACS NO. BR-PPN-0(169)A

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

DWG NO. T-02.02

32 OF ___

DOT-SUBDUE.I.TBL

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

PAVEMENT MARKING NOTES:

1. ALL PAVEMENT MARKING AND STRIPING SHALL BE IN COMPLIANCE WITH THE ADOT SIGNING AND MARKING STANDARD DRAWINGS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).:
2. THE PAVEMENT MARKING DRAWINGS ARE SCHEMATIC ONLY AND NOT TO SCALE. THE CONTRACTOR SHALL FOLLOW ALL DIMENSIONS. DETAILS AND STANDARDS WHEN INSTALLING PAVEMENT MARKINGS AND MARKERS.
3. THE PERMANENT PAVEMENT MARKING PLANS MAY BE MODIFIED AS DIRECTED BY THE ENGINEER.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT AND INSTALLATION OF PERMANENT PAVEMENT MARKINGS ON THE FINAL SURFACE COURSE FOLLOWING CONTROL POINTS THAT HAVE BEEN SET NO MORE THAN 50 FEET APART ALONG THE LINES TO BE STRIPED.
5. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE TO THE SATISFACTION OF THE ENGINEER. BY SWEEPING AND AIR-JET BLOWING. IMMEDIATELY PRIOR TO THE PLACEMENT OF ALL PAVEMENT MARKINGS. THE ROADWAY SURFACE SHALL BE DRY. THE AIR AND PAVEMENT TEMPERATURES SHALL NOT BE LESS THAN 50° F FOR THE PLACEMENT OF THERMOPLASTIC STRIPING. THE AIR AND PAVEMENT TEMPERATURES SHALL NOT BE LESS THAN 60° F FOR THE INSTALLATION OF TYPE I PAVEMENT MARKING TAPE.
6. WHEN STRIPING, SYMBOLS, OR LEGENDS ARE TO BE APPLIED TO NEW CONCRETE PAVEMENT, ANY CURING COMPOUND PRESENT SHALL BE REMOVED BY METHODS APPROVED BY THE ENGINEER. ON BOTH NEW AND OLD PAVEMENT. A PRIMER-SEALER, AS RECOMMENDED BY THE THERMOPLASTIC MANUFACTURER, SHALL BE APPLIED TO THE PAVEMENT PRIOR TO THE PLACEMENT OF THE THERMOPLASTIC MATERIAL.
7. THE FINAL STRIPING SHALL BE 60 MIL (0.060 INCHES) THICK HOT-SPRAYED THERMOPLASTIC REFLECTORIZED STRIPING PLACED AFTER COMPLETION OF THE FINAL PAVEMENT SURFACE. AS DIRECTED BY THE ENGINEER. ALL OTHER MARKINGS SHALL BE APPLIED AT THE SAME TIME.
8. ALL FINAL STOP BARS, SINGLE ARROWS AND "ONLY" LEGENDS SHALL BE 90 MIL (0.090 INCHES) THICK ALKYD EXTRUDED THERMOPLASTIC REFLECTORIZED MARKINGS. THEY SHALL BE INSTALLED IN ACCORDANCE WITH ADOT STD. DWGS.
9. WHEN STRIPE OBLITERATION IS NECESSARY, IT SHALL BE ACCOMPLISHED BY APPROVED METHODS, AS INDICATED IN THE SPECIAL PROVISIONS. PAINTING OVER STRIPING, REMOVAL OF PAVEMENT, AND OVERLAYING PAVEMENT DO NOT CONSTITUTE STRIPE OBLITERATION.
10. ALL RAISED PAVEMENT MARKERS SHALL HAVE AN ABRASION-RESISTANT COATING ON THE FACE OF THE PRISMATIC REFLECTORS AND SHALL CONFORM TO THE DETAILS OF ADOT STANDARD DRAWINGS. THEY SHALL BE INSTALLED WITH A BITUMINOUS ADHESIVE WHICH IS ON THE ADOT APPROVED PRODUCTS LIST.
11. WHERE RAISED PAVEMENT MARKERS ARE PLACED ALONG SOLID STRIPING, THE NEAREST EDGE OF EACH MARKER SHALL BE OFFSET TWO INCHES FROM THE NEAREST EDGE OF THE STRIPING.
12. ALL RAISED PAVEMENT MARKERS SHALL BE INSTALLED SO THAT THE REFLECTIVE FACE OF EACH MARKER IS FACING THE DIRECTION OF TRAFFIC AND IS PERPENDICULAR TO THE DIRECTION OF TRAFFIC FLOW. TYPE C PAVEMENT MARKERS SHALL BE INSTALLED SO THAT THE CLEAR REFLECTIVE FACE OF EACH MARKER IS FACING APPROACHING TRAFFIC AND PERPENDICULAR TO THE DIRECTION OF TRAFFIC FLOW.
13. THE CONTRACTOR SHALL DELINEATE ALL NEW GUARD RAIL END TREATMENTS IN ACCORDANCE WITH ADOT STANDARD DRAWINGS AND ADOT STANDARD SPECIFICATIONS. THERE SHALL BE NO MEASUREMENT OR PAYMENT FOR THE GUARD RAIL END TREATMENT DELINEATION.
14. THE CONTRACTOR SHALL REPLACE ALL DELINEATORS WITH NEW FLEXIBLE DELINEATORS AT THEIR CURRENT STATIONS. IN ADDITION, THE CONTRACTOR SHALL INSTALL DELINEATORS IN ACCORDANCE WITH ADOT STD DRAWINGS AND AS DIRECTED BY THE ENGINEER. ALL FLEXIBLE DELINEATORS SHALL BE ON ADOT'S APPROVED PRODUCTS LIST.
15. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE FINAL SURFACE COURSE IS PLACED SO THAT STRIPING IS OFFSET ONE FOOT CLEAR OF THE CONSTRUCTION JOINT. UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

APPROXIMATE PAVEMENT MARKING QUANTITIES

ITEM		ITEM	TOTAL QUANTITIES	PAY QUANTITY*
PAVEMENT MARKINGS (PAINTED) (WHITE)	6 INCH DASHED YELLOW	FT	****	****
	6 INCH DOUBLE YELLOW	FT	****	****
	6 INCH SOLID WHITE	FT	****	****
	18 INCH WHITE STOP BAR	FT	***	***
RAISED PAVEMENT MARKER	TYPE "C"	EACH	***	***

* PAY QUANTITY IS BASED ON A 4" WIDE STRIPE

NOTE: QUANTITIES FOR OBLITERATE PAVEMENT MARKING, OBLITERATE PAVEMENT MARKERS AND TEMPORARY PAINTED MARKING ARE INCLUDED WITH TRAFFIC CONTROL QUANTITIES.

NO.	DESCRIPTION OF REVISION	MADE BY	DATE
NO.2	DESCRIPTION OF REVISION	MADE BY	DATE

	NAME	DATE
DESIGN	WJS	05/13
DRAWN	AFA	05/13
CHECKED	EML	05/13

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Phoenix, AZ 85008 (602)244-2566

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
TRAFFIC DESIGN SERVICES

PAVEMENT MARKING GENERAL NOTES AND QUANTITIES

LOCATION: FLORENCE-KEVLIN HIGHWAY

TRACS NO. | BR-PPN-0(169)A

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

DWG NO. T-02.03

33 OF ___

DOT_SUBDUE_1.TBL

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

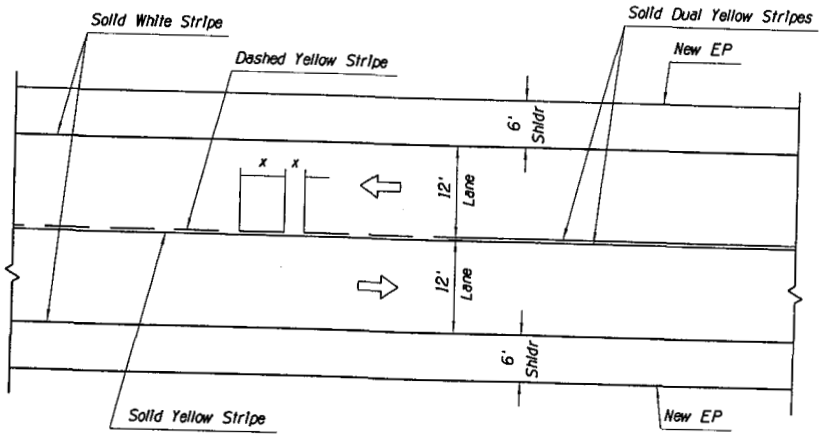
GENERAL SIGNING NOTES:

1. ALL SIGNS SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), THE ADOT SIGNING AND MARKING STANDARD DRAWINGS, THE ADOT TRAFFIC ENGINEERING MANUAL OF APPROVED SIGNS, AND THE SPECIAL PROVISIONS.
2. THE SIGN LOCATIONS AND POST LENGTHS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE SIGN LOCATIONS AND ACTUAL POST LENGTHS WITH THE ENGINEER PRIOR TO CONSTRUCTING THE FOUNDATIONS FOR SIGN SUPPORTS.
3. THE BOTTOM OF EACH SIGN SHALL BE AT LEAST 7 FEET ABOVE THE NEAREST EDGE OF PAVEMENT AND AT LEAST 7 FEET ABOVE THE GROUND UNDER THE SIGN
4. OFFSETS FOR ALL SIGNS SHALL BE MEASURED FROM THE EDGE OF THE ROADWAY TO THE NEAREST EDGE OF THE SIGN.
5. ALL NEW SIGNS SHALL BE FABRICATED OF FLAT SHEET ALUMINUM WITH DIRECT APPLIED COPY OR SCREEN PRINTED LEGEND AS INDICATED IN SECTION 608. ALL SIGNS THAT ARE LARGER THAN 48" WIDE SHOULD BE EXTRUDED ALUMINUM WITH DEMOUNTABLE CHARACTERS.
6. THE RETRO-REFLECTIVE SHEETING ON ALL NEW SIGNS SHALL MEET ADOT STANDARD SPECIFICATIONS.
7. ALL NEW SIGNS SHALL BE INSTALLED ON NEW SQUARE TUBE POSTS WITH FOUNDATIONS AS INDICATED IN ADOT STANDARD DRAWINGS.
8. THE ENGINEER MAY MODIFY THE SIGNING PLANS.
9. SHOP DRAWINGS WILL BE REQUIRED FOR ALL GUIDE SIGNS. SIGN FORMATS WILL BE REQUIRED FOR ALL GUIDE AND NONSTANDARD SIGNS.
10. THE CONTRACTOR SHALL REMOVE EXISTING SIGNING WHERE INDICATED IN THE SIGN SUMMARY.
11. SIGN PANELS SHOWN TO BE RELOCATED SHALL BE INSTALLED ON NEW POSTS AND FOUNDATIONS. EXISTING POSTS AND FOUNDATIONS SHALL BE REMOVED.
12. ALL SQUARE TUBE SIGN POSTS SHALL BE OF THE 2.5" SIZE.
13. EXISTING SIGNS NOT INDICATED IN THE SIGN SUMMARY, THAT DO NOT NEED TO BE REMOVED OR RELOCATED, SHALL REMAIN. IF CONSTRUCTION ACTIVITIES REQUIRE THE REMOVAL OF SIGNS, THE SIGNS SHALL BE REINSTALLED AS NEAR AS POSSIBLE TO THE EXISTING LOCATION, AS DIRECTED BY THE ENGINEER. THE REMOVAL / REINSTALLATION OF SIGNS FOR ANY CONSTRUCTION ACTIVITY SHALL BE INCLUDED IN THE COST OF THAT ACTIVITY. NO FURTHER COMPENSATION SHALL BE MADE.
14. THE CONTRACTOR SHALL PRESERVE ALL ROADWAY SIGNS, SIGN SUPPORTS, OBJECT MARKERS, AND MILEPOST MARKERS. THE CONTRACTOR SHALL REPLACE ANY SIGNS, SIGN, SUPPORTS, AND MARKERS DAMAGED AS A RESULT OF THE CONSTRUCTION AT THE CONTRACTOR'S EXPENSE.

APPROXIMATE SIGN QUANTITIES

FLORENCE-KELVIN HIGHWAY

DESCRIPTION	UNIT	QUANTITIES
BREAKAWAY SIGN POST S4x7.7	L FT	**
FOUNDATION FOR BREAKAWAY SIGN POST S4x7.7	EACH	**
SLIPBASE FOR SIGN POST (2½)	EACH	**
SIGN POST (2½S) (PERFORATED)	L FT	**
FOUNDATION FOR SIGN POST (CONCRETE)	EACH	**
REGULATORY, WARN, MARKER SIGN PANEL W/TYPE III/IV SHEET	SQ FT	**
EXTRUDED ALUM SIGN PANEL WITH TYPE III SHEET	SQ FT	***



FLORENCE-KELVIN HIGHWAY
MARKINGS DETAIL

	NAME	DATE
DESIGN	MJS	05/13
DRAWN	AFA	05/13
CHECKED	EHL	05/13

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
TRAFFIC DESIGN SERVICES

SIGNING GENERAL NOTES

LOCATION: FLORENCE-KELVIN HIGHWAY

TRACS NO. BR-PPN-0(169)A

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

DWG NO. T-02.04

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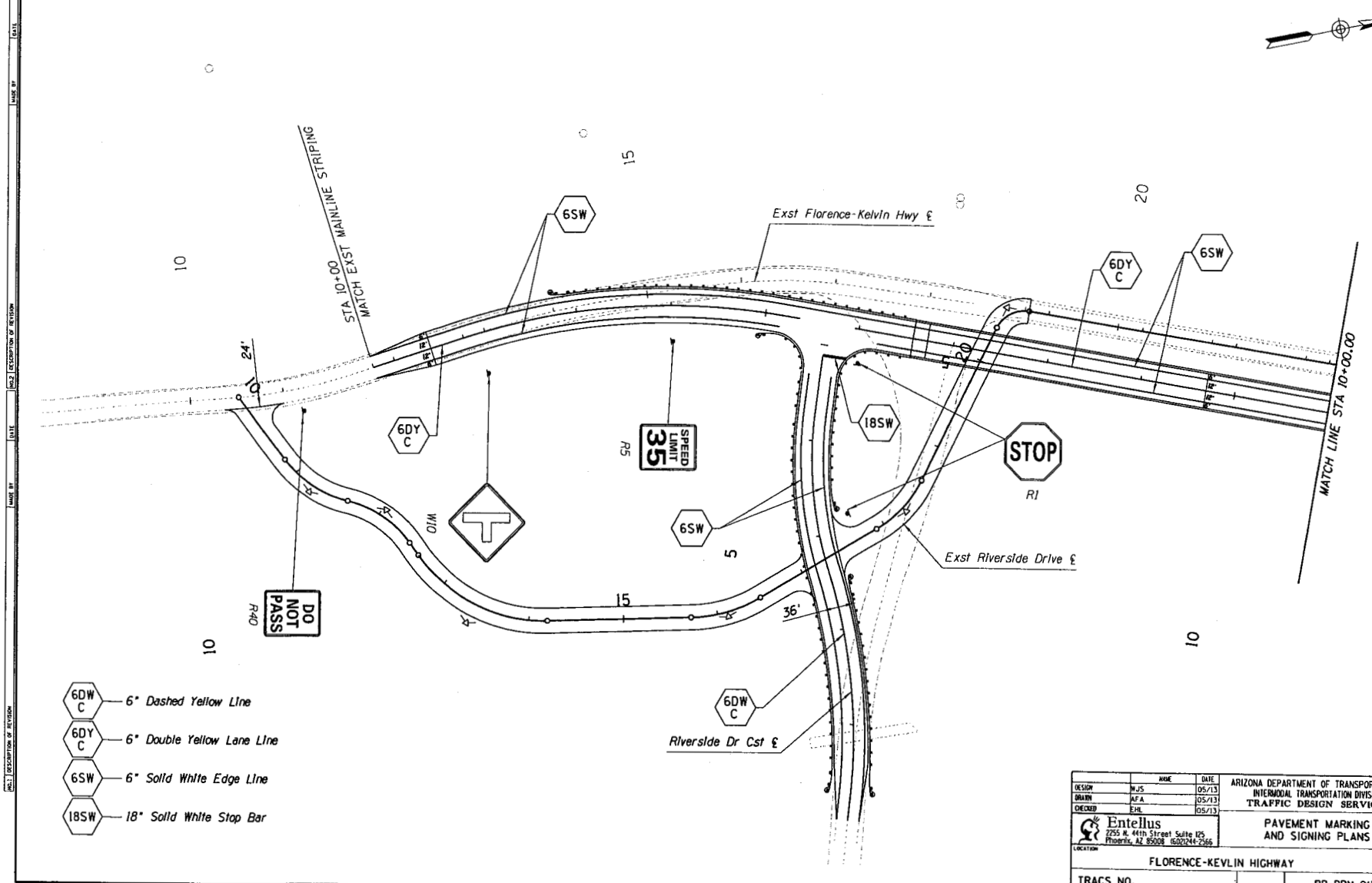
ADOT_SUBDUE_1.TBL

PLOTTED BY: ARDILDA AT

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			



	NAME	DATE
DESIGN	WJS	05/13
DRAWN	AFA	05/13
CHECKED	EHL	05/13

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
TRAFFIC DESIGN SERVICES

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PAVEMENT MARKING AND SIGNING PLANS

LOCATION: FLORENCE-KEVLIN HIGHWAY

TRACS NO. BR-PPN-0(169)A

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

DWG NO. T-03.01

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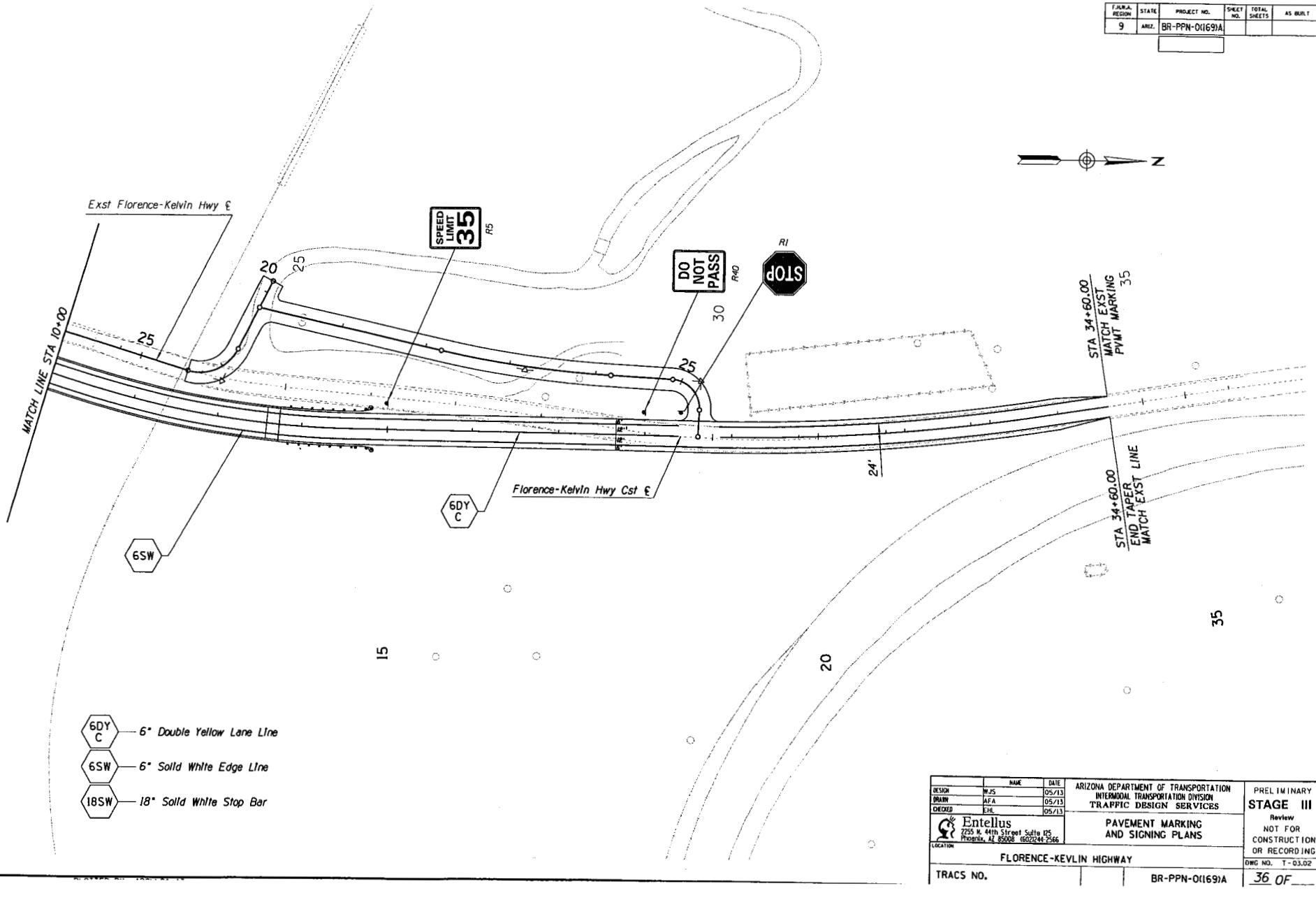
MADE BY | DATE | NO.1 DESCRIPTION OF REVISION
MADE BY | DATE | NO.2 DESCRIPTION OF REVISION

ADOT_SUBDUE_1.TBL



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

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ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
TRAFFIC DESIGN SERVICES

PAVEMENT MARKING AND SIGNING PLANS

LOCATION: FLORENCE-KEVLIN HIGHWAY

TRACS NO. BR-PPN-0(169)A

PRELIMINARY
STAGE III
Review
NOT FOR CONSTRUCTION OR RECORDING

DWG NO. T-03.02

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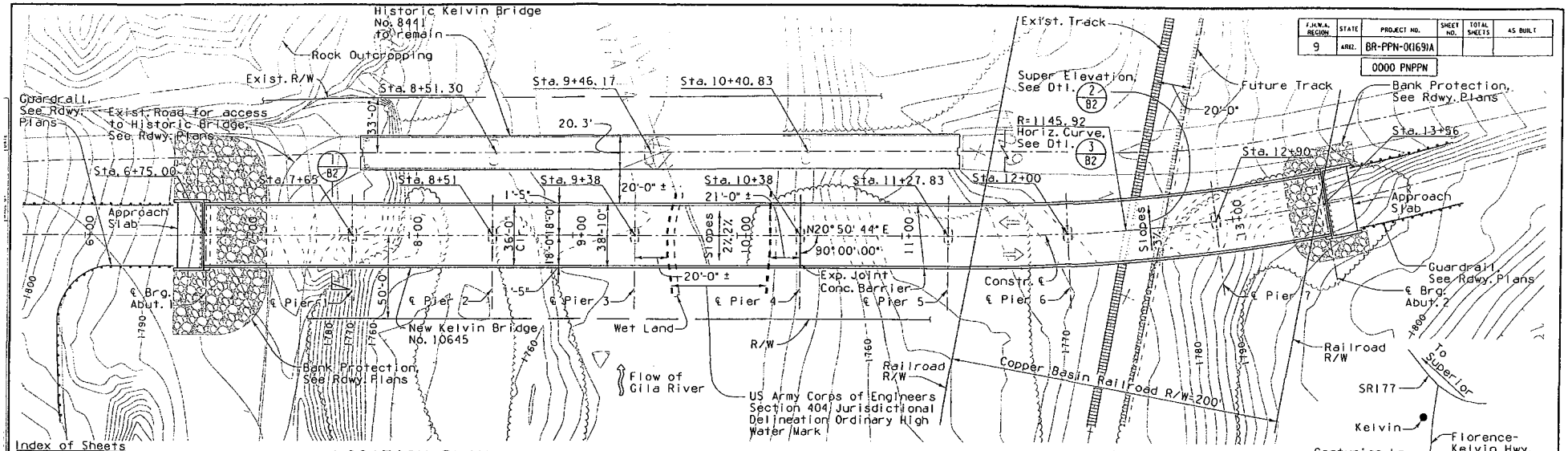
ADOT_SUBDUE_1.TBL



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
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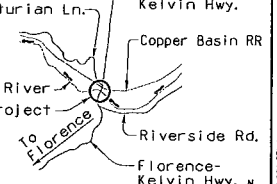
Index of Sheets

LOCATION PLAN

1" = 30'-0"
New Eight Span AASHTO Type IV Concrete Prestressed I Girder Bridge
Skew=0°
Contour Interval=2'-0"

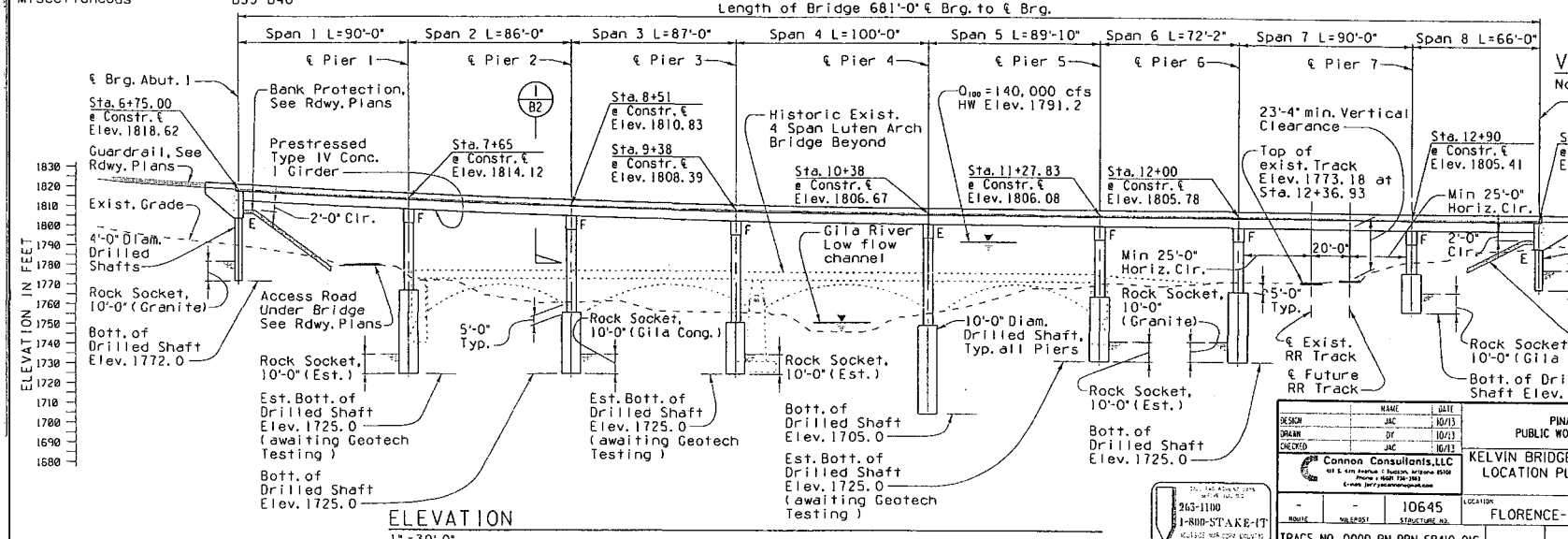
VICINITY MAP

No Scale



Length of Bridge 681'-0" ℄ Brg. to ℄ Brg.

Span 1 L=90'-0" | Span 2 L=86'-0" | Span 3 L=87'-0" | Span 4 L=100'-0" | Span 5 L=89'-10" | Span 6 L=72'-2" | Span 7 L=90'-0" | Span 8 L=66'-0"



ELEVATION

1" = 30'-0"

263-1100
1-800-STAKE-IT

	NAME	DATE
DESIGN	JAC	10/13
DRAWN	DT	10/13
CHECKED	JAC	10/13

Cannon Consultants, LLC
421 E. 6th Avenue | Durango, Colorado 81301
Phone: (970) 259-3963
E-mail: jeff@cannonengr.com

PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
LOCATION PLAN & ELEVATION

PRELIMINARY STAGE III 60% REVIEW NOT FOR CONSTRUCTION OR RECORDING Expires 6/30/2014

ROUTE	MILEPOST	STRUCTURE NO.	LOCATION
-	-	10645	FLORENCE-KELVIN HIGHWAY

TRACS NO. 0000 PN PPN SB410 01C | BR-PPN-0(169)A | B1 OF

GENERAL NOTES

Design Specifications

American Association of State Highway and Transportation Officials Standard Specifications for Highway Bridges, 17th Edition, 2002.

Construction Specifications

Arizona Department of Transportation Standard Specifications for Road and Bridge Construction, 2008, and the Special Provisions.

Design Loadings

Dead Load:
Dead load includes allowance for 25 psf for future wearing surface.
Live Load:
AASHTO HS25-44
Seismic:
Performance Category A.

Hydraulic Design Criteria

Q_{100} = 140,000 cfs, H.W. Elevation = 1791.2 feet,

Pier Scour depth = 35.0' Abutment No.1 Scour 23.2'; Abutment No.2 Scour 16.4'
See Hydraulic and Scour Analysis by Entellus dated June 28, 2005 and Addendum Number 1 dated December 2005.

Existing Bridge

Historic Kelvin Bridge Structure No.8441 is to remain and to be used for pedestrians. The existing Luten Arch Bridge is listed on the National Register of Historic Places.

Utilities

No utilities were found at the site and none are to be placed on the new Bridge.

Concrete and Reinforcement Stresses

f'c = 4,500 psi at 28 days - Superstructure except Barriers
f'c = 4,000 psi at 28 days - Substructure, Drilled Shafts & Barriers
f'c = 3,000 psi at 28 days - Approach Slabs & All Other Concrete.
fs = 20,000 psi = Transverse Deck Reinforcing Steel
fs = 24,000 psi = All Other Reinforcing Steel
f's = 270,000 psi = Prestressing Steel

All concrete shall be Class 'S' unless noted otherwise.

Reinforcing Steel shall conform to ASTM A615. All reinforcing shall be furnished as Grade 60.

Reinforcing steel to be welded, where approved by the Engineer, shall conform to ASTM A706

All dimensions for reinforcing steel shall be to center of bars, unless noted otherwise.

All reinforcing shall have a 2" cover, unless noted otherwise.

For concrete finish, see the Standard Specifications and Special Provisions.

Girders

Precast prestressed AASHTO Type IV Standard "I" girders with fci=5,500 psi, f'c=6,500 psi, and ½" diameter ASTM A416, Grade 270, 7-wire, low relaxation strands.

Foundations

Abutments and Piers are to be supported on drilled shafts. See Geotechnical report by Ricker-Atkinson-McBee & Associates Inc. Report Dated July 27, 2005 revised report dated January 16, 2006 & Supplement No.1 dated July 15, 2003 & Supplement No.2 dated Aug. 8, 2013.

Construction Joints

Sandblast all construction joints in concrete prior to placement of concrete. See Standard Specifications.

Coordination

Contractor shall coordinate all existing conditions during construction of project.

Dimensions

All dimensions are in feet and all stations and elevations are in feet.

Dimensions shall not be scaled from drawings.

Vertical dimensions are measured plumb, unless noted otherwise.

Concrete Barriers

Concrete barriers shall not be slip formed.

Chamfer

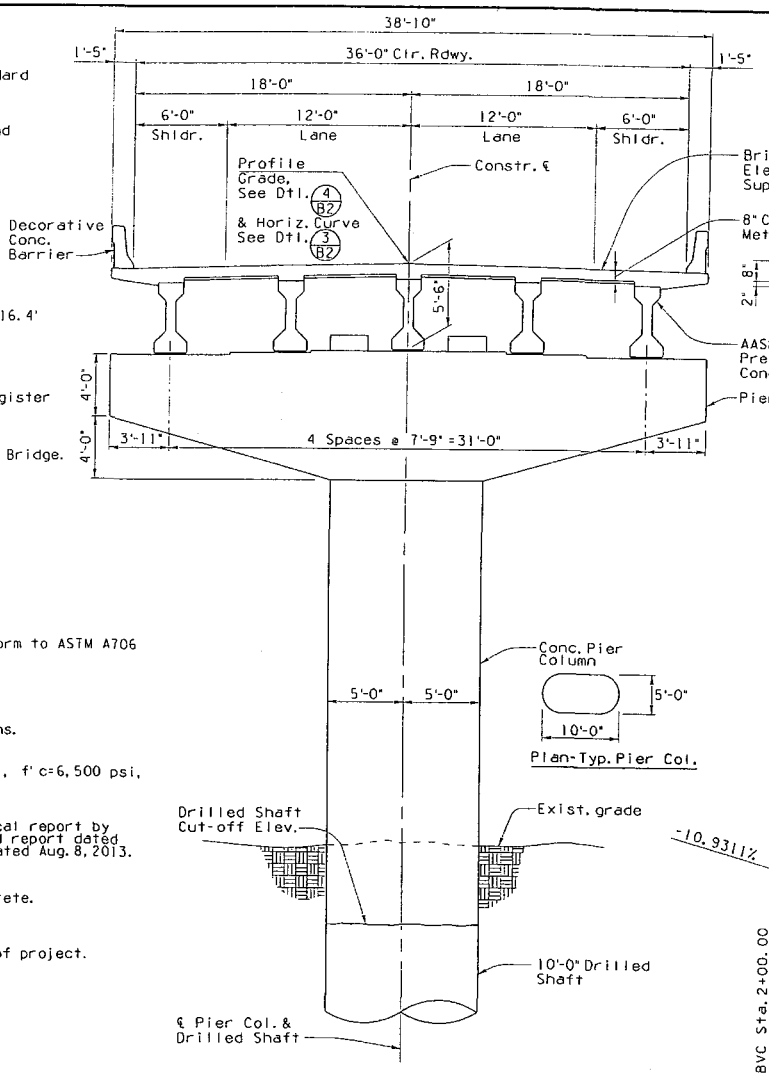
All exposed corners shall be chamfered ¾" unless noted otherwise. This note applies to all Bridge drawings.

ADOT Standard Drawing List

Construction, 2000 Edition: C-01.10, C-01.11, C-01.12, C-01.13, C-01.30, C-01.31, C-01.32
Structure Details: SD 1.01, SD 1.03, SD 2.01, SD 3.02, SD 5.01, SD 5.02

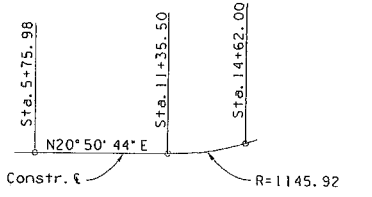
Inventory and Operating Rating

Ratings are in accordance with AASHTO Manual for Condition Evaluation of Bridge.



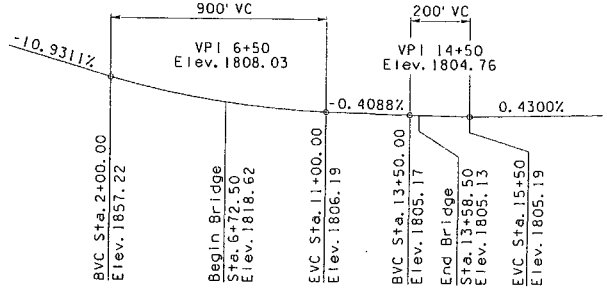
TYPICAL SECTION (1)
¼" = 1'-0"

SUPER ELEVATION DIAGRAM (2)
No Scale



HORIZONTAL CURVE DATA (3)
No Scale

PROFILE GRADE AT FLORENCE-KELVIN CONSTR. ℄ (4)
No Scale



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

0000 PNPPN

	NAME	DATE
DESIGN	JAC	10/13
DRAWN	DY	10/13
CHECKED	JAC	10/13

Cannon Consultants, LLC
411 S. 6th Avenue, Tucson, Arizona 85701
Phone: (520) 358-3983
E-mail: jerry.cannon@gmail.com

PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
GENERAL NOTES & TYP.SECTION

FLORENCE-KELVIN HIGHWAY

ROUTE	MILEPOST	STRUCTURE NO.
-	-	10645

TRACS NO. 0000 PN PPN SB410 01C

BR-PPN-0(169)A

B2 OF

PRELIMINARY STAGE III 60% REVIEW NOT FOR CONSTRUCTION OR RECORDING Expires 6/30/2014

263-1100
1-800-STAKE-IT

10/9/2013

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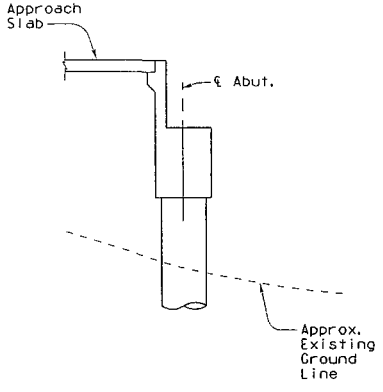
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			•
		0000 PNPPN			

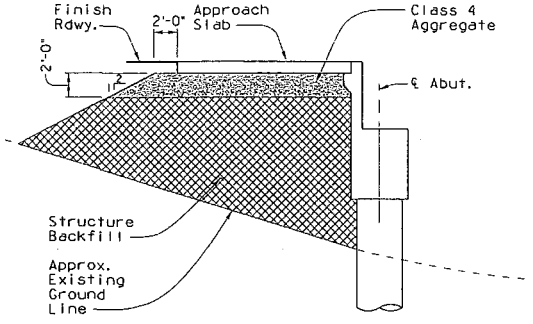
BRIDGE APPROXIMATE QUANTITIES

ITEM	STRUCTURAL EXCAVATION	STRUCTURE BACKFILL	CLASS 4 AGGREGATE	CLASS 'S' CONCRETE		PRECAST GIRDER TYPE IV		BRIDGE BARRIER AND TRANSITIONS	THRIE-BEAM GUARDRAIL TRANSITION	DECK JOINT ASSEMBLY STRIP SEAL	APPROACH SLAB	VERTICAL RESTRAINERS		REINF. STEEL	Drilled Shaft Foundation (4'-0")		Rock Socket (4'-0")		Drilled Shaft Foundation (10'-0")		Rock Socket (10'-0")	
				f'c=4,000 psi	f'c=4,500 psi							EXPANSION	FIXED									
	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	L.F.	NO.	L.F.	E.A.	L.F.	S.F.	EA.	EA.	LBS.	LF	No.	LF	No.	LF	No.	LF	No.
Abutment 1			52						2	41	583	8			48	2	20	2	--			
Pier 1													8						30	1	10	1
Pier 2													8						20	1	10	1
Pier 3													8						20	1	10	1
Pier 4										41		16							45	1	--	--
Pier 5													8						13	1	10	1
Pier 6													8						25	1	10	1
Pier 7													8						9	1	10	1
Abutment 2			52						2	41	583	8			24	2	20	2				
Superstructure					1049																	
Total	85	145	104	1076	1049	3400	35	1442	4	123	1166	32	48	502,000	72	4	40	4	162	7	60	6
As-Built Total																						



TYPICAL ABUTMENT SECTION

STRUCTURAL EXCAVATION PAYMENT LIMITS (1)
No Scale



TYPICAL ABUTMENT SECTION

STRUCTURE BACKFILL PAYMENT LIMITS (2)
No Scale

Notes:

1. For additional excavation and backfill details, See ADOT Std. Dwgs. SD 5.01 and SD 5.02.
2. Wingwall quantities are included in the Abutment Quantities
3. Bridge barrier quantities include concrete barrier transition on approach slab and Thrie-Beam transition up to guard rails and are accounted for in the Superstructure quantities.

LEGEND

- Structural Excavation
- Structure Backfill
- Class 4 Aggregate Subbase, per ADOT Standard Specifications for Road & Bridge Construction.

263-1100
1-800-STAKE-IT

	NAME	DATE
DESIGN	JAC	10/13
DRAWN	DY	10/13
CHECKED	JAC	10/13

Cannon Consultants, LLC
401 S. 4th Avenue • Tucson, Arizona 85701
Phone • (602) 734-2463
E-mail: jerry.cannon@gmail.com

PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
QUANTITIES & DETAILS

ROUTE	MILEPOST	STRUCTURE NO.
-	-	10645

LOCATION: FLORENCE-KELVIN HIGHWAY

TRACS NO. 0000 PN PPN SB410 01C | BR-PPN-0(169)A | B3 OF ___

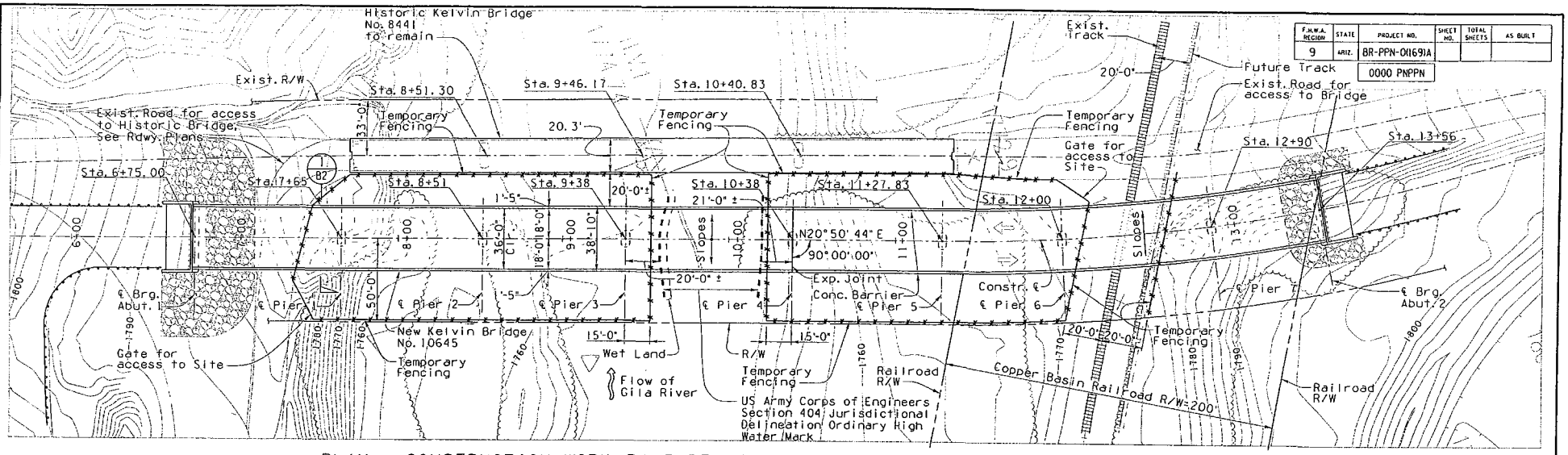
PRELIMINARY STAGE III
60% REVIEW
NOT FOR CONSTRUCTION OR RECORDING
Expires 6/30/2014

PROJ. NO. EC-12084

10/7/2013

C:\JOBS\CC\CC12\CC1284.XLWN\CC1284.XLWN_bridgeCC1284.XLWN_sheet3\CC1284_NQ.dgn

NO. | DESCRIPTION OF REVISION | DATE | MADE BY



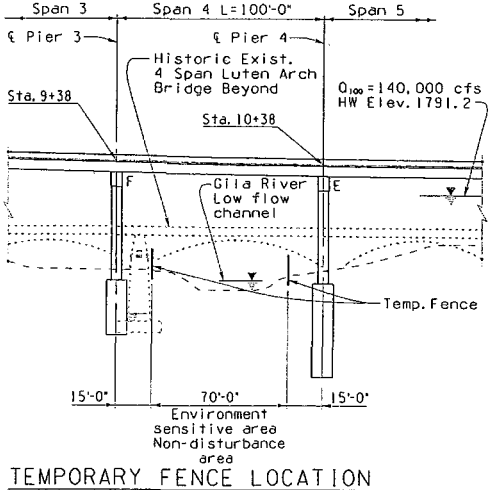
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			

PLAN - CONSTRUCTION WORK ZONE REQUIREMENTS

1" = 30'-0"

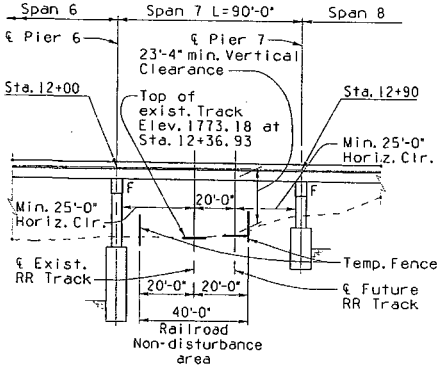
Notes:

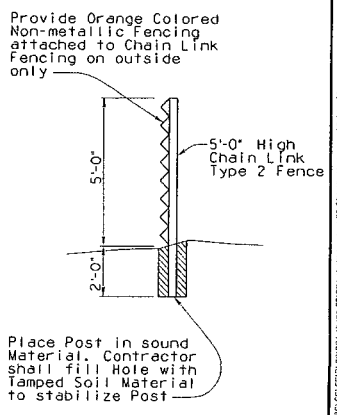
1. See General Notes, Sheet B2.
2. The Contractor shall submit, prior to start of ground breaking activities, a "Plan for Construction Activities" to be used during construction of the Kelvin Bridge. The plan shall include items such as methods for preventing material from falling into the Gila River, location of access roads to bridge work areas, methods for protecting natural features, and the railroad location of material storage areas, and other related items.
3. The Kelvin Bridge Construction Work Zone is defined as beginning at Station 6+00 and ending at Station 14+00 and along the boundary of the proposed right-of-way along the east side of the bridge and along the boundary of the 2'-0" offset from the existing bridge as shown above. The Contractor shall restrict construction activity to the Kelvin Bridge Work Zone.
4. Construction Work Zone Fencing: Before the start of ground disturbance activities, the Contractor shall install temporary fencing along the boundary of the Construction Work Zone. The Contractor shall not use or enter areas outside the Construction Work Zone.
5. Fencing Environmentally Sensitive Areas within the Construction Work Zone: Prior to the start of ground disturbance activities adjacent to the Gila River and designated wetlands, the Contractor shall install temporary protective 5'-0" high fencing with non-metallic fencing attached to fencing as shown on the project plans and as directed by the Engineer. The fencing will protect the environmentally sensitive area, and on each side of the railroad as shown on the project plans, which shall not be disturbed. The cost for this work is considered incidental and shall be included in the Contractor's bid items.
6. Disturbance by the Contractor shall be minimized during construction of the new bridge. The areas designated as wetlands or areas within the limits of Waters of the US shall not be disturbed. The Contractor shall take necessary precautions to protect these areas. Upon completion of the construction work, the Contractor shall restore all disturbed areas.



TEMPORARY FENCE LOCATION

1" = 30'-0"





DETAIL - TEMPORARY FENCING (A)

No Scale

	NAME	DATE
DESIGN	JAC	10/13
DRAWN	DY	10/13
CHECKED	JAC	10/13

Cannon Consultants, LLC
411 E. 4th Avenue • Tucson, Arizona 85705
Phone: (520) 730-3563
E-mark: jerry.cannon@cox.net

PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
CONSTRUCTION WORK ZONE
REQUIREMENTS

ROUTE	MILEPOST	STRUCTURE NO.
-	-	10645

LOCATION: FLORENCE-KELVIN HIGHWAY

TRACS NO. 0000 PN PPN SB410 01C | BR-PPN-0(169)A | B3A OF ___

PRELIMINARY STAGE III 60% REVIEW NOT FOR CONSTRUCTION OR RECORDING Expires 6/30/2014

263-1100
1-800-STAKE-IT

10/24/2013

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PROJ. NO. CI: 12004

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			

LOG BORING No. B1
(Sta. 6+75 on CL)

TEST BORING LOG

BORING NO. B1 — DATE: 11-2-04 — BY: SB
PROJECT NO. G08156 — SHEET NO. 1 OF 2
PROJECT NAME: Florence -Kelvin Bridge @ Gila River — GROUND ELEV. 1787.0
STA. 6+75 on CL — W.T. ELEV. None Encountered
DRILL EQUIPMENT: CME 75 — DRILLER: D & S Drilling

Depth, feet	Blows/Foot (Core Data) C (Run)	Blows/Foot (Core Data) N/R (% Rec./ % RQD)	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
							2" Asphalt Concrete
						SM	Silty Sand, Trace Gravel (Decomposed Granite), tan, nearly dry, medium dense to very dense with depth, grades less weathered with depth.
5		18	N		5		
							(4" SSA, auger refusal @ 10', NX wireline coring with water)
10		50/5"	N		2		
	1	72/18					Granite; reddish brown to gray, hard to very hard, slightly to moderately fractured/jointed with some weathering in fracture zones.
15							
	2	100/70					
20							
	3	100/27					
25							
							- continued -

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist across the vicinity of this boring location.

R.A.M.M. Project No: G08156 — A3

LOG BORING No. B1 (cont.)
(Sta. 6+75 on CL)

TEST BORING LOG

BORING NO. B1 — DATE: 11-2-04 — BY: SB
PROJECT NO. G08156 — SHEET NO. 2 OF 2
PROJECT NAME: Florence -Kelvin Bridge @ Gila River — GROUND ELEV. 1787.0'
STA. 6+75 on CL — W.T. ELEV. None Encountered
DRILL EQUIPMENT: CME 75 — DRILLER: D & S Drilling

Depth, feet	Blows/Foot (Core Data) C (Run)	Blows/Foot (Core Data) N/R (% Rec./ % RQD)	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
							Granite; - continued
	4	100/100					
30							
	5	100/55					Moderately to highly fractured/jointed with increasing weathering in joints.
35							
	6	100/30					
40							
							Stopped coring at 40 feet. No groundwater observed.
45							
50							

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist across the vicinity of this boring location

R.A.M.M. Project No: G08156 — A4

	NAME	DATE
DESIGN	RR	10/13
DRAWN	DY	10/13
CHECKED	RM	10/13

RAMM

PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
FOUNDATION DATA
2 OF 10

PRELIMINARY
STAGE III
60% DESIGN REVIEW
NOT FOR CONSTRUCTION OR RECORDING
Expires 6/30/2014

-	-	10645
ISSUED	MILEPOST	STRUCTURE NO.

LOCATION: FLORENCE-KELVIN HIGHWAY

TRACS NO. 0000 PN PPN S8410 01C

BR-PPN-0(169)A

B5 OF

253-1100
1-800-STAKE-IT

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10/9/2013
WED, OCT 09 12:28:01

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			

LOG BORING No. B2 (Sta. 8+51 on CL)

TEST BORING LOG

BORING NO. B2
PROJECT NO. G08156
PROJECT NAME: Florence -Kelvin Bridge @ Gila River
STA. 8+51 on CL
DRILL EQUIPMENT: CME 75

DATE: 11-18-04 BY: SB
SHEET NO. 1 OF 3
GROUND ELEV. 1760.0'
W.T. ELEV. 1754.0'
DRILLER: D & S Drilling

Depth, feet	Blows/Foot (Core Data) C (Run)	Blows/Foot (Core Data) N/R (% Rec./ % RQD)	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
		6	N		2	SP/SM	Gravelly Sand, Some Silt; brown, loose, no to low plasticity fines.
5		3	N		19		Wet below 6 feet
10		4	N		28		(4" SSA to 10', changed to 3" steel casing and rotary wash drilling)
15		8	N		25		
20		10	N		11		
25							(25' started coring with NQ wireline diamond bit rotary wash)

- continued -

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

R.A.M.M. Project No: G08156

A5

LOG BORING No. B2 (cont.) (Sta. 8+51 on CL)

TEST BORING LOG

BORING NO. B2
PROJECT NO. G08156
PROJECT NAME: Florence -Kelvin Bridge @ Gila River
STA. 8+51 on CL
DRILL EQUIPMENT: CME 75

DATE: 11-18-04 BY: SB
SHEET NO. 2 OF 3
GROUND ELEV. 1760.0'
W.T. ELEV. 1754.0'
DRILLER: D & S Drilling

Depth, feet	Blows/Foot (Core Data) C (Run)	Blows/Foot (Core Data) N/R (% Rec./ % RQD)	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
30	1	50/1 " 20/0	N		NR		Gila Conglomerate; brown, moderately hard, sand, gravel, cobble and boulder size clasts in variably moderate to heavy cemented silty matrix, massive, contains some cemented sand zones and gravelly sand zones. Lightly weathered. Clasts vary in origin (sedimentary, igenous, and metamorphic).
35	2	50/3 " 50/0	N		19		
40	3	50/1 " 50/0	N		NR		
45	4	50/1 " 60/0	N		NR		
50	5	50/1 " 53/0	N		NR		

- continued -

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

R.A.M.M. Project No: G08156

A6

LOG BORING No. B2 (cont.) (Sta. 8+51 on CL)

TEST BORING LOG

BORING NO. B2
PROJECT NO. G08156
PROJECT NAME: Florence -Kelvin Bridge @ Gila River
STA. 8+51 on CL
DRILL EQUIPMENT: CME 75

DATE: 11-18-04 BY: SB
SHEET NO. 3 OF 3
GROUND ELEV. 1760.0'
W.T. ELEV. 1754.0'
DRILLER: D & S Drilling

Depth, feet	Blows/Foot (Core Data) C (Run)	Blows/Foot (Core Data) N/R (% Rec./ % RQD)	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
	6	50/1 " 65/0	N		NR		Gila Conglomerate; - continued
55		50/1 "	N		NR		Stopped coring at 55 feet. Groundwater observed at 6 feet. NR = No Recovery
60							
65							
70							
75							

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

R.A.M.M. Project No: G08156

A7

	NAME	DATE
DESIGN	RR	10/13
DRAWN	DF	10/13
CHECKED	RR	10/13

RAMM

PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
FOUNDATION DATA
3 OF 10

FLORENCE-KELVIN HIGHWAY

TRACS NO. 0000 PN PPN SB410 01C | BR-PPN-0(169)A | B6 OF

PRELIMINARY
STAGE III
REVIEW
NOT FOR CONSTRUCTION OR RECORDING
Expires 6/30/2014

263-1100
1-800-STAKE-IT

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10-9-2013

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			

LOG BORING No. B3
(Sta. 10+40.83 on CL)

TEST BORING LOG

BORING NO. B3 — DATE: 11-11-04 — BY: SB
PROJECT NO. G08156 — SHEET NO. 1 OF 4
PROJECT NAME: Florence -Kelvin Bridge @ Gila River — GROUND ELEV. 1755.0'
STA. 10+40.83 on CL — W.T. ELEV. 1743.0'
DRILL EQUIPMENT: CME 75 — DRILLER: D & S Drilling

Depth, feet	Blows/Foot (Core Data) C (Run)	Blows/Foot (Core Data) N/R (% Rec./ % RQD)	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
		5	N		5	SM	Silty Gravelly Sand; brown, nearly dry to damp, loose to dense, low to no plasticity fines.
5		11	N		11		
10		19	R	NR			(4" SSA to 10', then downhole hammer with casing advancer, 5" diameter, air rotary)
		25	N		4	▽	Wet below 12 feet
15		8	N		14		
20		15	N		21	SM/GM	Sand and Gravel, With Silt and Cobbles; gray, wet, medum dense to dense, low to no plasticity fines.
25							- continued -

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location

R.A.M.M. Project No: G08156 — A8

LOG BORING No. B3 (cont.)
(Sta. 10+40.83 on CL)

TEST BORING LOG

BORING NO. B3 — DATE: 11-11-04 — BY: SB
PROJECT NO. G08156 — SHEET NO. 2 OF 4
PROJECT NAME: Florence -Kelvin Bridge @ Gila River — GROUND ELEV. 1755.0'
STA. 10+40.83 on CL — W.T. ELEV. 1743.0'
DRILL EQUIPMENT: CME 75 — DRILLER: D & S Drilling

Depth, feet	Blows/Foot (Core Data) C (Run)	Blows/Foot (Core Data) N/R (% Rec./ % RQD)	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
		20	N		15	SM/GM	Sand and Gravel, With Silt and Cobbles; - continued
							Changed to rotary wash using 3" diameter casing.
30		32	N		13		Grades brown in color.
35		50/3"	N		NR		
40		17	N		24		
45		37	N		18		
50							- continued -

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location

R.A.M.M. Project No: G08156 — A9

LOG BORING No. B3 (cont.)
(Sta. 10+40.83 on CL)

TEST BORING LOG

BORING NO. B3 — DATE: 11-11-04 — BY: SB
PROJECT NO. G08156 — SHEET NO. 3 OF 4
PROJECT NAME: Florence -Kelvin Bridge @ Gila River — GROUND ELEV. 1755.0'
STA. 10+40.83 on CL — W.T. ELEV. 1743.0'
DRILL EQUIPMENT: CME 75 — DRILLER: D & S Drilling

Depth, feet	Blows/Foot (Core Data) C (Run)	Blows/Foot (Core Data) N/R (% Rec./ % RQD)	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
		37	N		18	SM/GM	Sand and Gravel, With Silt and Cobbles; - continued
55		42	N		12		
60		38	N		10		
65		44	N		4		
70		45	N		5		
75							

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location

R.A.M.M. Project No: G08156 — A10

	NAME	DATE
DESIGN	RR	10/13
DRAWN	DY	10/13
CHECKED	RR	10/13

RAMM

PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
FOUNDATION DATA
4 OF 10

ROUTE	MILEPOST	STRUCTURE NO.	LOCATION
-	-	10645	FLORENCE-KELVIN HIGHWAY

TRACS NO. 0000 PN PPN SB410 01C — BR-PPN-0(169)A — B7 OF

PRELIMINARY STAGE III 60% PLANS REVIEW NOT FOR CONSTRUCTION OR RECORDING Expires 6/30/2014

263-1180 1-800-STAKE-IT

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PROJ NO. CC-1204
10/4/2013

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			

LOG BORING No. B3 (cont.)
(Sta. 10+40.83 on CL)

TEST BORING LOG

BORING NO. B3
PROJECT NO. G08156
PROJECT NAME: Florence -Kelvin Bridge @ Gila River
STA. 10+40.83 on CL
DRILL EQUIPMENT: CME 75
DATE: 11-11-04 BY: SB
SHEET NO. 4 OF 4
GROUND ELEV. 1755.0'
W.T. ELEV. 1743.0'
DRILLER: D & S Drilling

Depth, feet	Blows/Foot (Core Data) C (Run)	Blows/Foot (Core Data) N/R (% Rec./ % RQD)	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
		37	N		18	SM/GM	Sand and Gravel, With Silt and Cobbles; - continued
80		47	N		2		80
85		50/4"	N		NR		85
90		44	N		NR		90
95						GP	Boulders and Cobbles, With Sand and Gravel Filling Voids; brown, wet, dense to very dense, low to no plasticity fines. 95
100							Stopped coring at 100 feet. Groundwater observed at 12.5 feet. NR = No Recovery This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

R.A.M.M. Project No: G08156 A11

LOG BORING No. B4
(Sta. 12+00 on CL)

TEST BORING LOG

BORING NO. B4
PROJECT NO. G08156
PROJECT NAME: Florence -Kelvin Bridge @ Gila River
STA. 12+00 on CL
DRILL EQUIPMENT: CME 75
DATE: 11-10-04 BY: SB
SHEET NO. 1 OF 2
GROUND ELEV. 1772.0'
W.T. ELEV. 1756.0'
DRILLER: D & S Drilling

Depth, feet	Blows/Foot (Core Data) C (Run)	Blows/Foot (Core Data) N/R (% Rec./ % RQD)	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
						ML	Silt, Some Sand, Trace Gravel; brown, damp, firm, low plasticity.
5		8 10	R N	NR	13		5
							(4" SSA to 10', changed to 3" casing with diamond bit and rotary wash)
10		12	N		10	SM	10 Silty Sand, Trace Gravel; brown, loose to medium dense.
15		8	R	95	26		15 ▽ Wet below 15 feet
20		9	R	91	29		20 (Switched to downhole hammer with casing advancer, 5" diameter and air rotary)
						SC/GC	Clayey Sand and Gravel (Decomposed Granite); brown, wet, dense to very dense, medium plasticity fines.
25							25 - continued -

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

R.A.M.M. Project No: G08156 A12

LOG BORING No. B4 (cont.)
(Sta. 12+00 on CL)

TEST BORING LOG

BORING NO. B4
PROJECT NO. G08156
PROJECT NAME: Florence -Kelvin Bridge @ Gila River
STA. 12+00 on CL
DRILL EQUIPMENT: CME 75
DATE: 11-10-04 BY: SB
SHEET NO. 2 OF 2
GROUND ELEV. 1772.0'
W.T. ELEV. 1756.0'
DRILLER: D & S Drilling

Depth, feet	Blows/Foot (Core Data) C (Run)	Blows/Foot (Core Data) N/R (% Rec./ % ROD)	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
		89/9"	N		NR	SC/GC	Clayey Sand and Gravel (Decomposed Granite); - continued
		60/4"	N		NR		Changed to NQ wireline coring with rotary wash.
30	1	62/0					30 Granite; gray, hard, high fractured/jointed, some weathering along joints/fractures.
35	2	100/0					35
40	3	100/63					40
45	4	100/85					45
50							50 Stopped coring at 50 feet. Groundwater observed at 16 feet. NR = No Recovery This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

R.A.M.M. Project No: G08156 A13

	NAME	DATE
DESIGN	AR	10/13
DRAWN	DT	10/13
CHECKED	AR	10/13

RAMM

PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
FOUNDATION DATA
5 OF 10

ROUTE - MILEPOST 10645 STRUCTURE NO.

LOCATION FLORENCE-KELVIN HIGHWAY

TRACS NO. 0000 PN PPN SB410 01C

BR-PPN-0(169)A

PRELIMINARY STAGE III 60% REVIEW NOT FOR CONSTRUCTION OR RECORDING Expires 6/30/2014

B8 OF

263-1100
1-800-STAKE-IT

C:\JOBS\CC\CC12\CC1284.KLWA-bridge\CC1284_KLWA_sheets\CC1284_T05.dgn
PROJ DATE: 12/9/2013

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			

LOG BORING No. B5 (Sta. 12+90 L15')

TEST BORING LOG

BORING NO. B5 — DATE: 11-3-04 — BY: SB
PROJECT NO. G08156 — SHEET NO. 1 OF 3
PROJECT NAME: Florence -Kelvin Bridge @ Gila River — GROUND ELEV. 1782.0 ' (At CL)
STA. 12+90; L15 ' — W.T. ELEV. 1758.0 '
DRILL EQUIPMENT: CME 75 — DRILLER: D & S Drilling

Depth, feet	Blows/Foot (Core Data) C (Run)	Blows/Foot (Core Data) N/R (% Rec./ % ROD)	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
							Note: Upper 5 feet is visual log of cut adjacent to test boring.
						SM/GM	Silty Sand and Gravel, Occasional Cobbles; brown, nearly dry, dense to very dense, low plasticity fines, moderately to heavily cemented.
5		50/4 "	N		7		
10		50/3 "	N		1		(4 " SSA to 3" diameter casing and rotary wash)
							Gila Conglomerate; brown, moderately hard, sand, gravel, cobble and boulder size clasts in variably moderate to heavy cemented silty matrix, massive, contains some cemented sand zones and gravelly sand zones.
15	1	60/0					
	2	62/0					Lightly weathered.
							Clasts vary in origin (sedimentary, igenous, and metamorphic).
20							
	3	50/0					
25							Wet below 24 feet

- continued -

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual sand lens which may exist within the vicinity of this boring location.

R.A.M.M. Project No: G08156 — A14

LOG BORING No. B5 (cont.) (Sta. 12+90 L15')

TEST BORING LOG

BORING NO. B5 — DATE: 11-3-04 — BY: SB
PROJECT NO. G08156 — SHEET NO. 2 OF 3
PROJECT NAME: Florence -Kelvin Bridge @ Gila River — GROUND ELEV. 1782.0 ' (At CL)
STA. 12+90; L15 ' — W.T. ELEV. 1758.0 '
DRILL EQUIPMENT: CME 75 — DRILLER: D & S Drilling

Depth, feet	Blows/Foot (Core Data) C (Run)	Blows/Foot (Core Data) N/R (% Rec./ % ROD)	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
							Gila Conglomerate; - continued
	4	37/0					
30							Grades to silty sand zone with less cementation.
		19	N		5		(Changed to 3" casing and rotary wash)
35		30	N		11		
40		50/2 "	N		NR		Heavily cemented with gravel, cobbles and boulders.
45		50/2 "	N		NR		
50							

- continued -

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

R.A.M.M. Project No: G08156 — A15

LOG BORING No. B5 (cont.) (Sta. 12+90 L15')

TEST BORING LOG

BORING NO. B5 — DATE: 11-3-04 — BY: SB
PROJECT NO. G08156 — SHEET NO. 3 OF 3
PROJECT NAME: Florence -Kelvin Bridge @ Gila River — GROUND ELEV. 1782.0 ' (At CL)
STA. 12+90; L15 ' — W.T. ELEV. 1758.0 '
DRILL EQUIPMENT: CME 75 — DRILLER: D & S Drilling

Depth, feet	Blows/Foot (Core Data) C (Run)	Blows/Foot (Core Data) N/R (% Rec./ % ROD)	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
		50/1 "	N		NR		Gila Conglomerate; - continued
	5	67/0					(Change to NQ wireline with rotary wash)
							Granite; gray, moderately hard to hard, highly fractured/jointed with highly weathered joints.
55							
	6	100/0					
60							
	7	100/0					
65							
	8	100/68					
70							
							Stopped coring at 70 feet.
							Groundwater observed at 24 feet.
							NR = No Recovery
75							

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

R.A.M.M. Project No: G08156 — A16

	NAME	DATE
DESIGN	RR	10/13
DRAWN	DT	10/13
CHECKED	RR	10/13

RAMM

PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
FOUNDATION DATA
6 OF 10

ROUTE	MILEPOST	STRUCTURE NO.	LOCATION
-	-	10645	FLORENCE-KELVIN HIGHWAY

TRACS NO. 0000 PN PPN SB410 01C — BR-PPN-0(169)A — B9 OF ___

PRELIMINARY STAGE III 60% REVIEW NOT FOR CONSTRUCTION OR RECORDING Expires 6/30/2014

ARIZONA BLUE STAKE, INC. 263-1100 1-800-STAKE-IT

10/4/2013

C:\JOBS\CC\CC12\CC1284\KLVN\CC1284_KLVN_bridge\CC1284_KLVN_sheets\CC1284_F06.dgn

PRELIMINARY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

0000 PNPPN

LOG BORING No. B6
(Sta. 13+55 L15')

TEST BORING LOG

BORING NO. B6
PROJECT NO. G08156
PROJECT NAME: Florence -Kelvin Bridge @ Gila River
STA. 13+55; L15 '
DRILL EQUIPMENT: CME 75

DATE: 11-16-04 BY: SB
SHEET NO. 1 OF 3
GROUND ELEV. 1790.0 ' (At CL)
W.T. ELEV. None Encountered
DRILLER: D & S Drilling

Depth, feet	Blows/Foot (Core Data) C (Run)	Blows/Foot (Core Data) N/R (% Rec./ % RQD)	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
							Note: Upper 10 feet is visual log of cut adjacent to test boring.
						SC/GC	Clayey Sand and Gravel, With Cobbles and Boulders; brown, nearly dry, dense to very dense, medium plasticity fines.
5							
							Gila Conglomerate; brown, moderately hard, sand, gravel, cobble and boulder size clasts in variably moderate to heavy cemented silty matrix, massive, *contains some cemented sand zones and gravelly sand zones.*
10		50/5 "	N		1		Moderately to highly weathered at surface, less weathered with depth.
							Clasts vary in origin (sedimentary, igenous, and metamorphic).
15		50/1 "	N		NR		
							(Downhole hammer with casing advancer, and air rotary, changed to 3" casing with rotary wash)
20		50/4 "	N		1		
25							

- continued -

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

R.A.M. Project No: G08156

A17

LOG BORING No. B6 (cont.)
(Sta. 13+55 L15')

TEST BORING LOG

BORING NO. B6
PROJECT NO. G08156
PROJECT NAME: Florence -Kelvin Bridge @ Gila River
STA. 13+55; L15 '
DRILL EQUIPMENT: CME 75

DATE: 11-16-04 BY: SB
SHEET NO. 2 OF 3
GROUND ELEV. 1790.0 ' (At CL)
W.T. ELEV. None Encountered
DRILLER: D & S Drilling

Depth, feet	Blows/Foot (Core Data) C (Run)	Blows/Foot (Core Data) N/R (% Rec./ % RQD)	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
		50/2 "	N		NR		Gila Conglomerate; - continued
30		50/3 "	N		3		
35		50/1 "	N		1		
40							(Change to NQ wireline coring and rotary wash)
	1	30/0					
45							
	2	100/0					Granite; gray, moderately hard to hard, highly fractured/jointed with highly weathered joints.
50							

- continued -

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

R.A.M. Project No: G08156

A18

LOG BORING No. B6 (cont.)
(Sta. 13+55 L15')

TEST BORING LOG

BORING NO. B6
PROJECT NO. G08156
PROJECT NAME: Florence -Kelvin Bridge @ Gila River
STA. 13+55; L15 '
DRILL EQUIPMENT: CME 75

DATE: 11-16-04 BY: SB
SHEET NO. 3 OF 3
GROUND ELEV. 1790.0 ' (At CL)
W.T. ELEV. None Encountered
DRILLER: D & S Drilling

Depth, feet	Blows/Foot (Core Data) C (Run)	Blows/Foot (Core Data) N/R (% Rec./ % RQD)	Sample Type	Dry Density, pcf	Water Content, %	Unified Classification	Description
	3	100/100					Granite; - continued
55							
	4	100/32					
60							
							Stopped coring at 60 feet. No groundwater observed. NR = No Recovery
65							
70							
75							

This boring log represents the conditions encountered on the date of drilling at this particular location. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of this boring location.

R.A.M. Project No: G08156

A19

263-1100
1-800-STAKE-IT

	NAME	DATE
DESIGN	AR	10/13
DRAWN	DY	10/13
CHECKED	AR	10/13

RAMM

PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
FOUNDATION DATA
7 OF 10

ROUTE	SECTION	STRUCTURE NO.
-	-	10645

LOCATION: FflorENCE-KELVIN HIGHWAY

TRACS NO. 0000 PN PPN SB410 01C

BR-PPN-0(169)A

PRELIMINARY
STAGE III
60% PLANS REVIEW
NOT FOR CONSTRUCTION OR RECORDING
Expires 6/30/2014

BIO OF ___

REV. DESCRIPTION OF REVISION | MADE BY | DATE | INITIAL BY | DATE

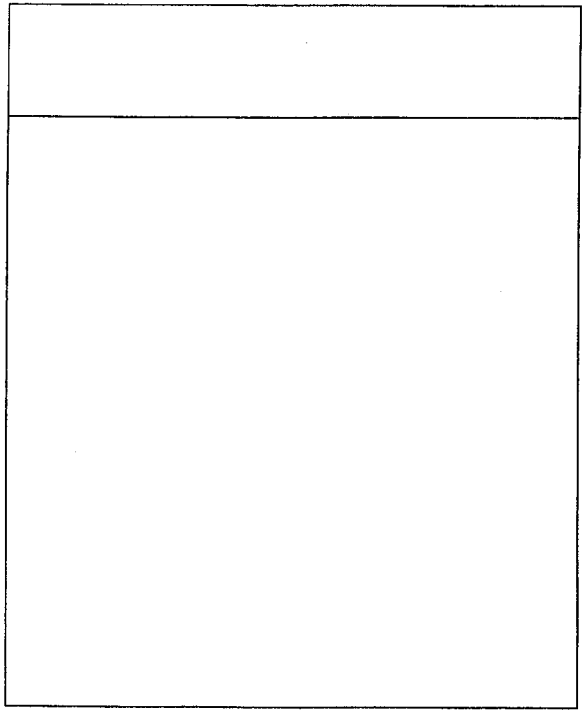
E:\JOBS\CCC\CC12804\CC12804_KL\PW\CC12804_KL_PW_bridge\CC12804_KL_PW_sheets\CC12804_T10.dgn

REV. NO. CC-12804

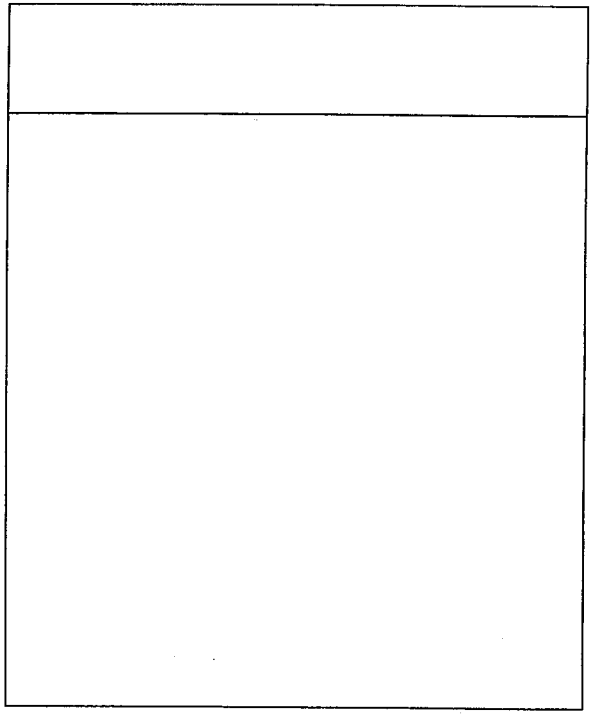
10/29/2013

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			

LOG BORING No. B



LOG BORING No. B (cont.)



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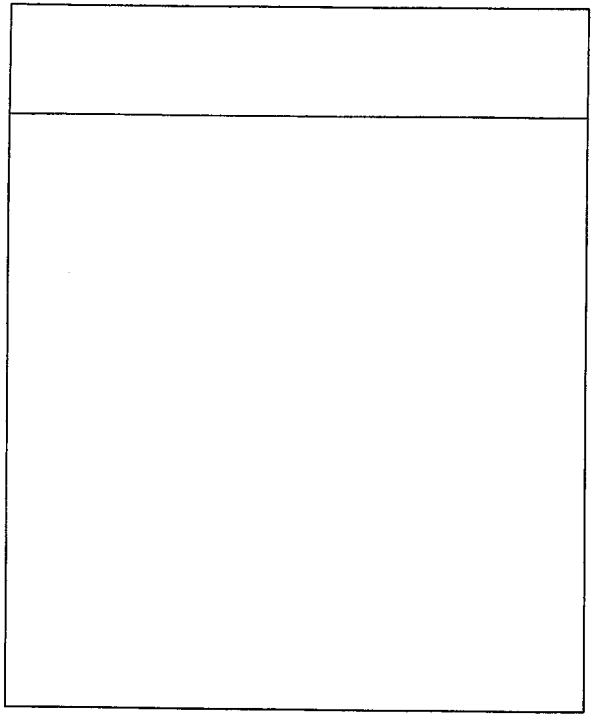


AWAITING ENVIRONMENTAL CLEARANCE TO DRILL HOLE

	NAME	DATE
DESIGN	RR	10/13
DRAWN	BY	10/13
CHECKED	RR	10/13

RAMM

ROUTE	MILEPOST	STRUCTURE NO.
-	-	10645

TRACS NO. 0000 PN PPN S8410 01C

PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
FOUNDATION DATA
8 OF 10

LOCATION: FLORENCE-KELVIN HIGHWAY

BR-PPN-0(169)A

PRELIMINARY
STAGE II
60% REVIEW
NOT FOR CONSTRUCTION OR RECORDING
Expires 6/30/2014

BII OF

263-1100
1-800-STAKE-IT

NO. | DESCRIPTION OF REVISION | DATE | MADE BY

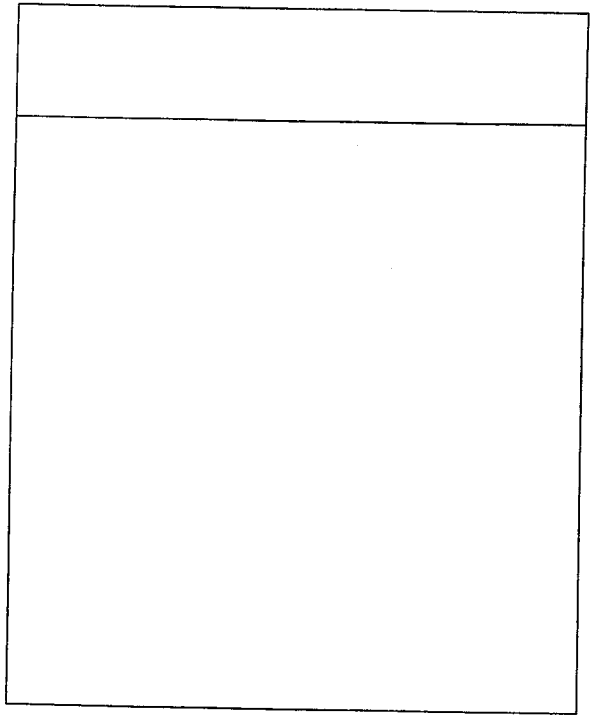
C:\JOBS\CC\CC12\CC1204.KLVN\bridge\CC1204_KLVN.sheets\CC1204_F08.dgn

BLU-RDS-ECE-179084 10/15/2013

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

0000 PNPPN

LOG BORING No. B



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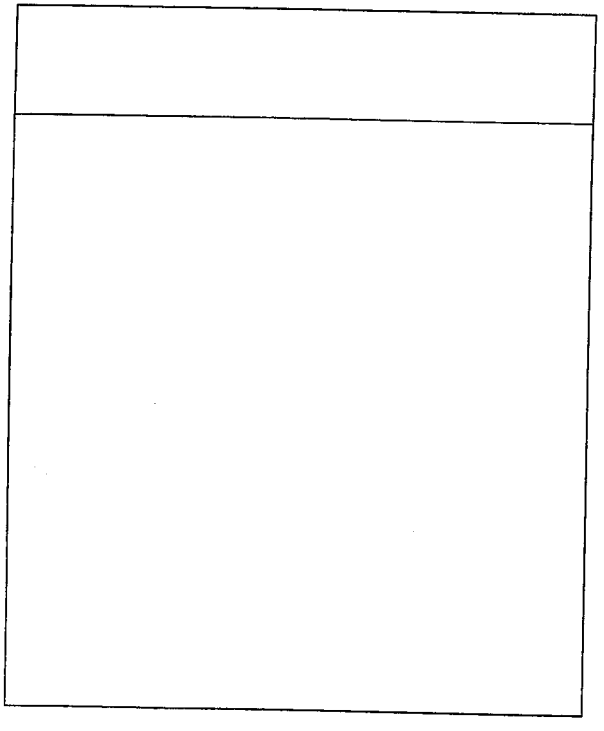

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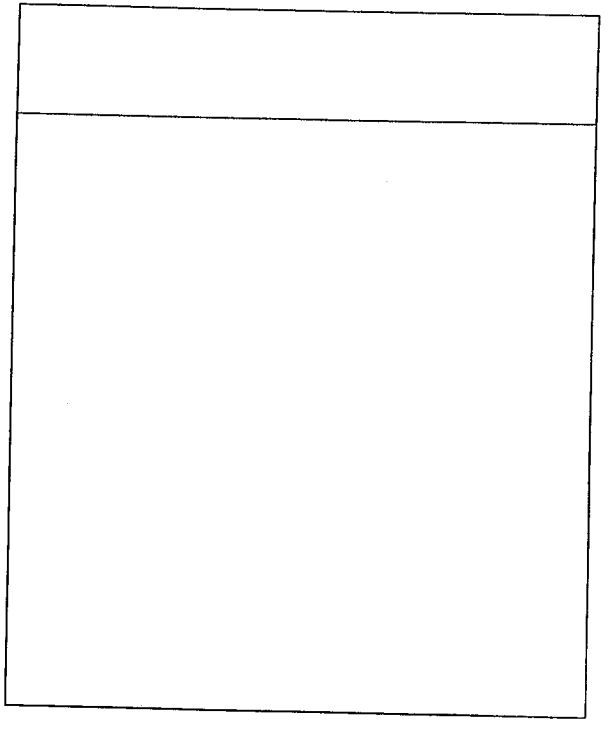

AWAITING ENVIRONMENTAL CLEARANCE TO DRILL HOLE

	NAME	DATE
DESIGN	RR	10/13
DRAWN	DY	10/13
CHECKED	RR	10/13

RAMM

ROUTE	MILEPOST	STRUCTURE NO.
-	-	10645

TRACS NO. 0000 PN PPN SB410 01C

PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
FOUNDATION DATA
9 OF 10

LOCATION: FLORENCE-KELVIN HIGHWAY

BR-PPN-0(169)A

PRELIMINARY
STAGE II
60%
REVIEW
NOT FOR CONSTRUCTION OR RECORDING
EXPIRES 6/30/2014

B12 OF ___

263-1100
1-800-STAKE-IT

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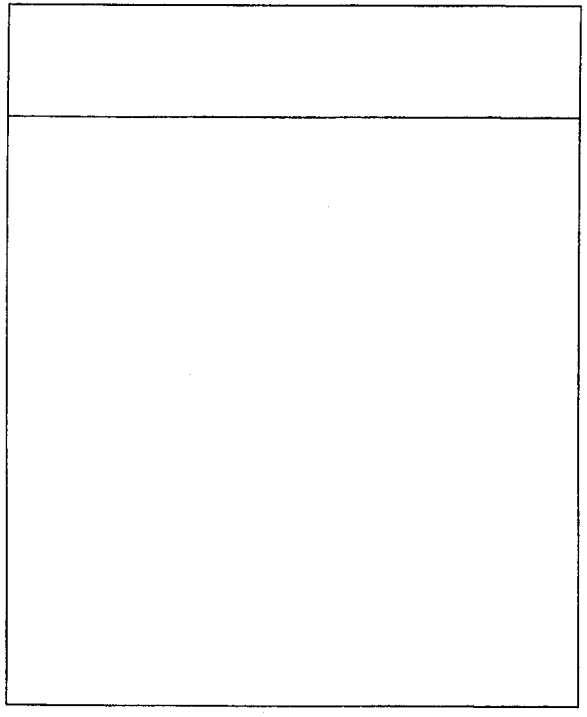
10/9/2013
TIME
PLOT DATE: 12-2014

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			

LOG BORING No. B



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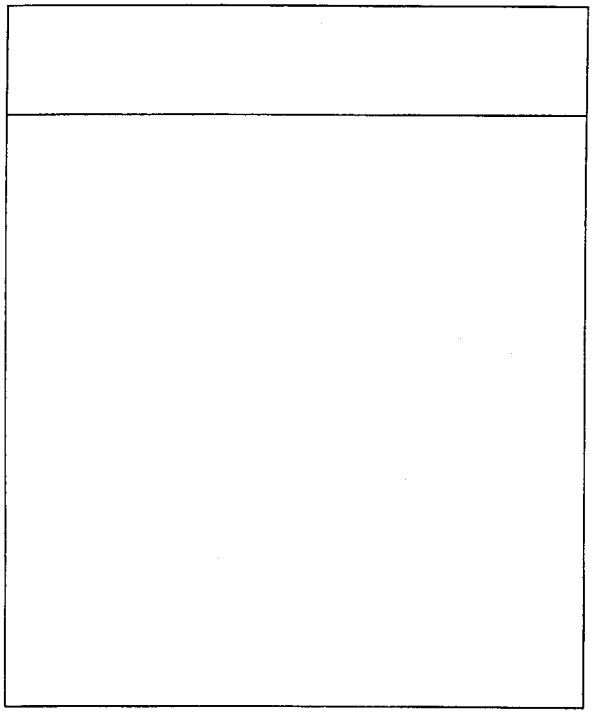

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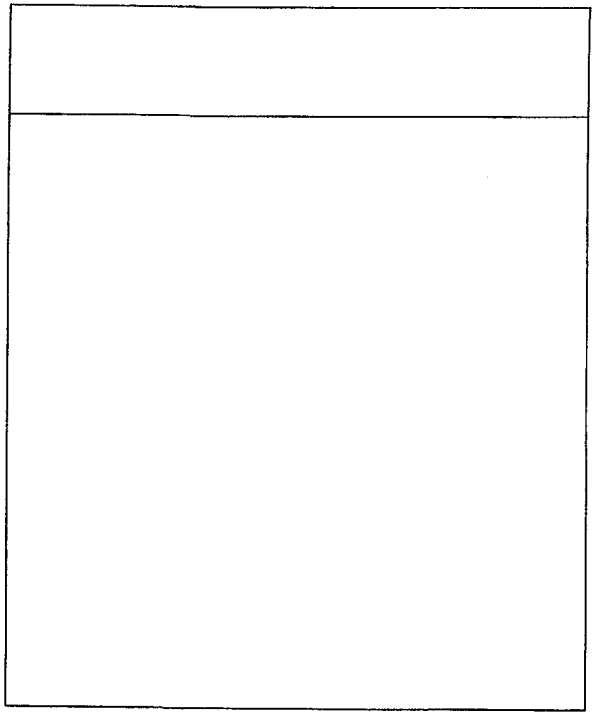


AWAITING ENVIRONMENTAL CLEARANCE TO DRILL HOLE

	NAME	DATE
DESIGN	JAC	10/13
DRAWN	DT	10/13
CHECKED	JAC	10/13

Cannon Consultants, LLC
417 S. 4th Avenue • Tucson, Arizona 85701
Phone | (520) 730-3983
E-mail: jerry@cannonconsult.com

PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
FOUNDATION DATA
10 OF 10

PRELIMINARY
STAGE III
60%
REVIEW
NOT FOR CONSTRUCTION OR RECORDING
Expires 6/30/2014

263-1160
1-800-STAKE-IT

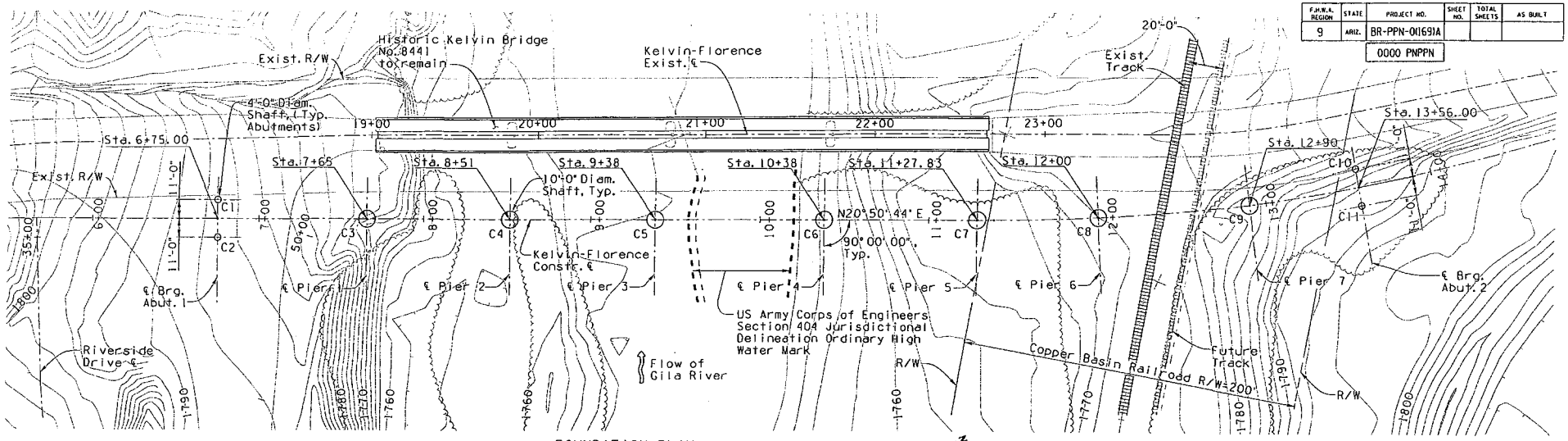
ROUTE	MILEPOST	STRUCTURE NO.	LOCATION
-	-	10645	FLORENCE-KELVIN HIGHWAY

TRACS NO. 0000 PN PPN SB410 01C | BR-PPN-0(169)A | B13 OF ___

NO. | DESCRIPTION OF REVISION | MADE BY | DATE | NO. | DESCRIPTION OF REVISION | MADE BY | DATE

C:\JOBS\CCE\2784.KLVN\CE2784.KLVN_bridge\CE2784_KLVN_sheets\CE2784_F10B.dgn
10/14/2013 10:01:12 AM

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			



FOUNDATION PLAN
1" = 30'-0"

Foundation Notes:

1. See General Notes, Sheet B2.
2. Abutments are to be supported on 4'-0" diameter cast-in-place concrete drilled shaft. Piers are to be supported on 10'-0" diameter cast-in-place concrete drilled shaft.
3. The confirmation shaft shall be shaft C3 at pier 1. The contractor shall drill the confirmation shaft to the elevation shown on the plans. The excavation of this shaft shall be observed by the geotechnical engineer to verify the bearing materials and to verify that the proposed methods and equipment are adequate to properly excavate the drilled shafts. See Special Provisions.
4. Drilled shaft excavation is not permitted within 48 hours of the completion of concrete placement of an adjacent drilled shaft. An adjacent drilled shaft is any drilled shaft within 4 diameters measured center-to-center.
5. Tops of drilled shafts shall be within 3" of plan dimensions and shall not deviate more than 1" in 10' from plumb.
6. Construction joints not shown on project plans will require the approval of the Engineer prior to construction.
7. Contractor shall be responsible for providing support of reinforcing cages during fabrication, erection and placement of concrete. Plans showing reinforcing cage support and methods of erection shall be submitted to the Engineer for review and approval prior to construction. See Special Provisions.
8. Vertical reinforcement steel shall be deformed bars conforming to ASTM A615, Grade 60. Continuous ties shall be cold drawn wire conforming to ASTM A82.
9. All drilled shaft vertical reinforcing steel shall be in as long lengths as practical with splices when needed as shown in Detail 5 Sheet B15.
10. Concrete for drilled shafts shall be class 'S' concrete with f'c=4000 psi at 28 days.
11. In the event of a weak layer (silt, clay, loose sand, ect.) at the recommended elevation of the shaft bottom the shaft shall be extended to bear on firm soil as determined by the Geotechnical Engineer.
12. Concrete shall be placed immediately after excavation has been completed and the reinforcing cage placed in its position.

Mark	Shaft Diam. (ft.)	Top of Drilled Shaft Cut off Elev. A	Bott. of Drilled Shaft Elev. B	Top Rock Socket Elev. C	Bott. Rock Socket Elev. D	Axial Design Load (Kips)	Geotech Report Capacity (Kips)	Location
C1, C2	Two 4'-0"	See Dtl.	N/A	1782.00	1772.00	750^{K} each	1300^{K}	Abut. 1
C3	10'-0"	1765.00	N/A	1735.00	1725.00	1750^{K}	1)	Pier 1
C4	10'-0"	1755.00	N/A	1735.00	1725.00	1750^{K}	5050	Pier 2
C5	10'-0"	1755.00	N/A	1735.00	1725.00	1750^{K}	1)	Pier 3
C6	10'-0"	1750.00	1705.00	NONE	NONE	1750^{K}	1835	Pier 4
C7	10'-0"	1755.00	N/A	1742.00	1732.00	1700^{K}	1)	Pier 5
C8	10'-0"	1767.00	N/A	1742.00	1732.00	1700^{K}	3200	Pier 6
C9	10'-0"	1777.00	N/A	1768.00	1758.00	1700^{K}	5050	Pier 7
C10, C11	Two 4'-0"	See Dtl.	N/A	1780.00	1770.00	650^{K} each	2000	Abut. 2

1) Awaiting Environmental Clearance

DRILLED SHAFT SCHEDULE (1)

	NAME	DATE
DESIGN	JAC	10/13
DRAWN	DY	10/13
CHECKED	JAC	10/13

Cannon Consultants, LLC
401 S. 4th Avenue • Tucson, Arizona 85701
Phone: (520) 136-3963
E-mail: terry.cannon@mac.com

PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
FOUNDATION PLAN

ROUTE	MILEPOST	STRUCTURE NO.	LOCATION
-	-	10645	FLORENCE-KELVIN HIGHWAY

TRACS NO. 0000 PN PPN SB410 01C | BR-PPN-0(169)A | B14 OF ___

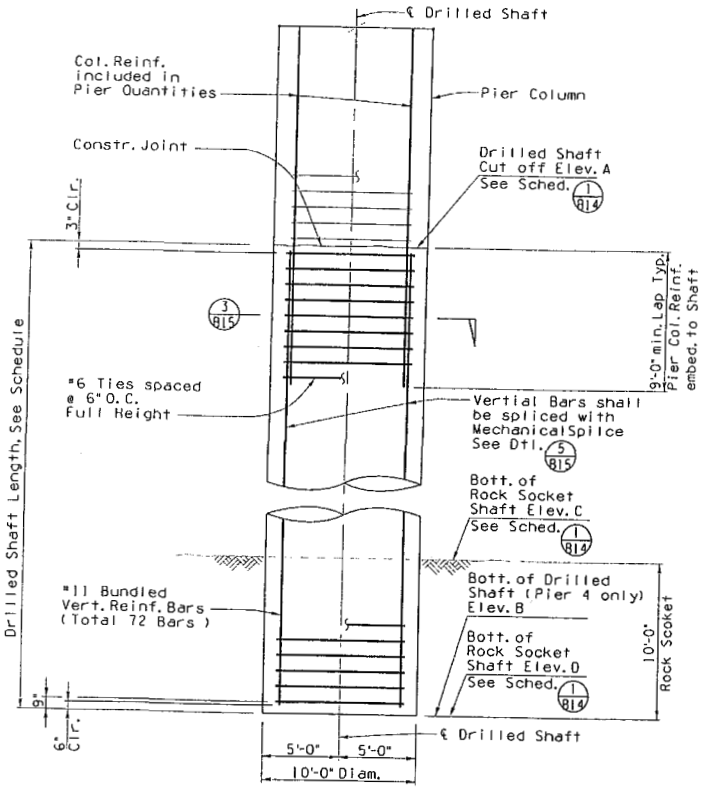
PRELIMINARY STAGE III
60% COMPLETE REVIEW
NOT FOR CONSTRUCTION OR RECORDING
Expires 6/30/2014

263-1100
1-800-STAKE-IT

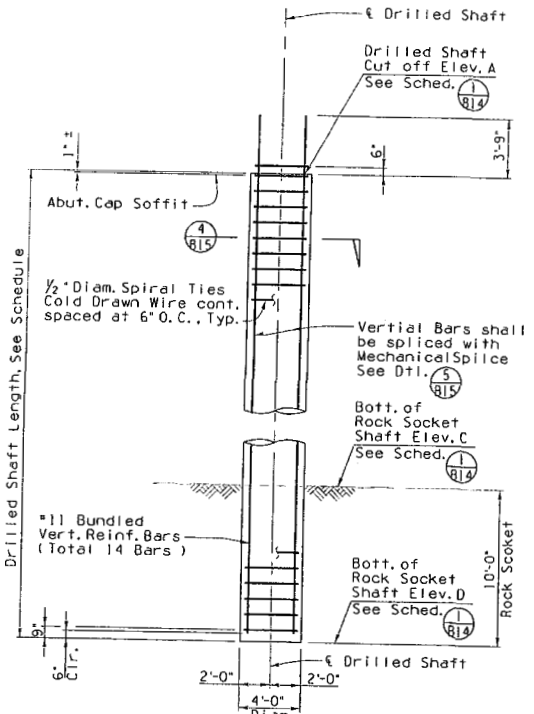
10/9/2013
RDU MD.DC.12004

C:\JOBS\CC\CC12\CC1204.AL\WVACC1204.AL\WN.bridge\CC1204.AL\WN.sheets\CC1204_FP.dgn

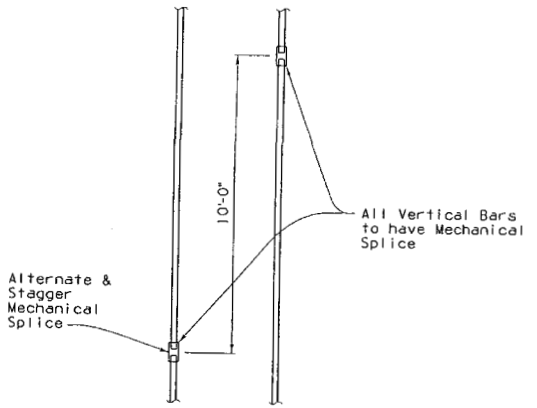
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			



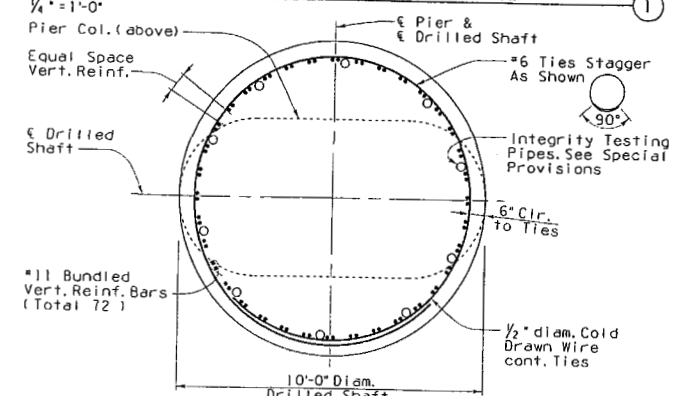
TYPICAL PIER DRILLED SHAFT ELEVATION DETAIL (1)
1/4" = 1'-0"



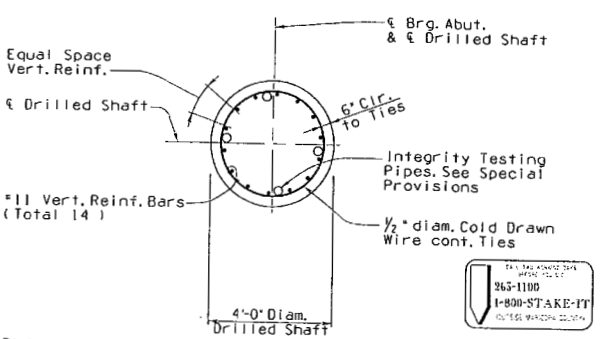
TYPICAL ABUTMENT DRILLED SHAFT ELEVATION DETAIL (2)
1/4" = 1'-0"



TYP. VERTICAL BAR SPLICE DETAIL (5)
No Scale



PLAN - PIER DRILLED SHAFT (3)
1/4" = 1'-0"



PLAN - ABUTMENT DRILLED SHAFT (4)

SPIRAL REINFORCING NOTES:

Spiral reinforcement shall be 1/2" diameter cold drawn steel wire conforming to AASHTO M32 except minimum tensile strenght equals 60,000 psi.

Anchorage of the spiral reinforcement reinforcement shall be provided by 1 1/2 extra turns of the spiral at the end of the spiral unit. The end of the spiral shall have a 135° hook with a 4 1/2" extension which engages the longitudinal reinforcement.

Splices in the spiral reinforcement shall be lap splices of 48 bar diameters, but not less than 12" with 135° hooks and 10" tails or shall be welded.

	NAME	DATE
DESIGN	JSC	10/13
DRAWN	DY	10/13
CHECKED	JSC	10/13

Cannon Consultants, LLC
63 S. 4th Avenue • Tucson, Arizona 85701
Phone • (520) 750-7953
E-mail: jerry.cannon@gmail.com

PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
FOUNDATION DETAILS

-	-	10645
ROUTE	MILEPOST	STRUCTURE NO.

LOCATION
FLORENCE-KELVIN HIGHWAY

PRELIMINARY
STAGE III
60% REVIEW
NOT FOR CONSTRUCTION OR RECORDING
Expires 6/30/2014

811 BLUE STAKE, INC.
ARIZONA BLUE STAKE, INC.
263-1100
1-800-STAKE-IT
OUTSIDE MARICOPA COUNTY

10/4/2013

C:\JOBS\CCI\CCI12\CCI1204\KLWN\CCI1204_KLWN_plan_sheets\CCI1204_051.dgn
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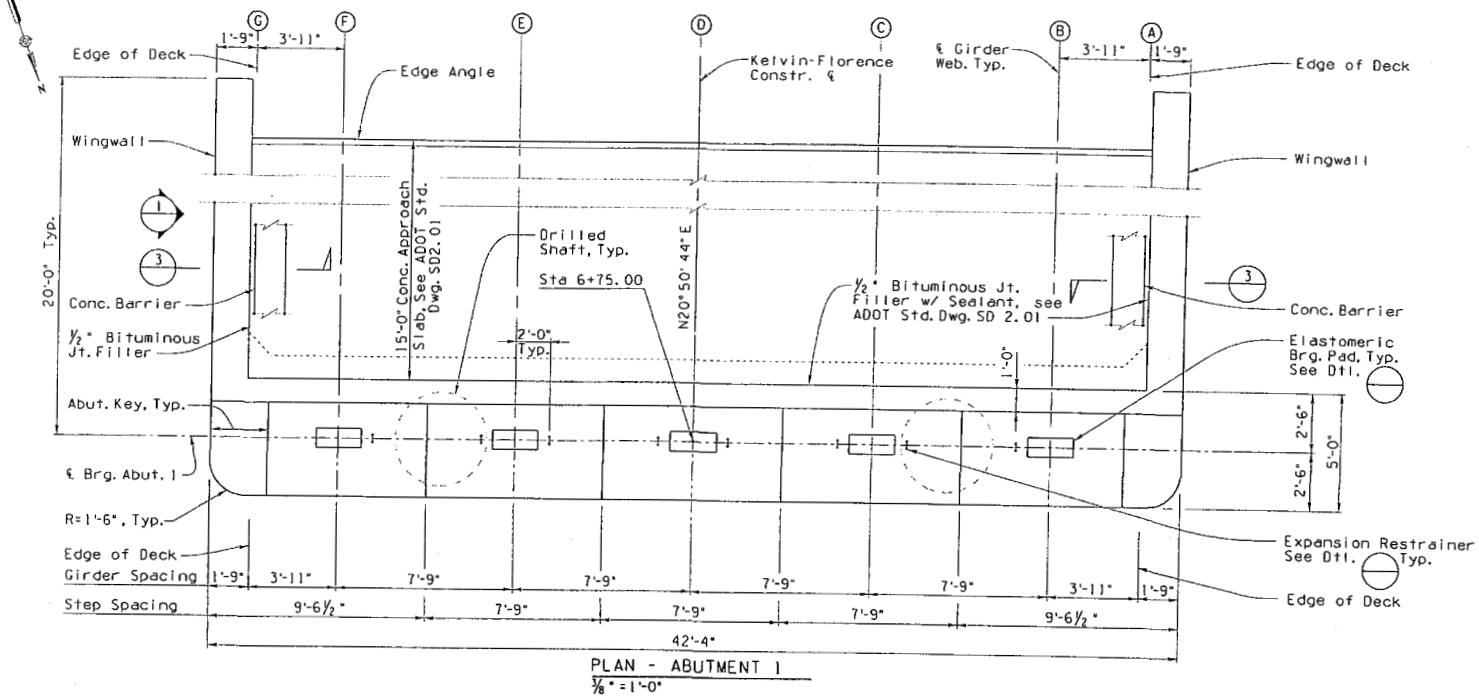
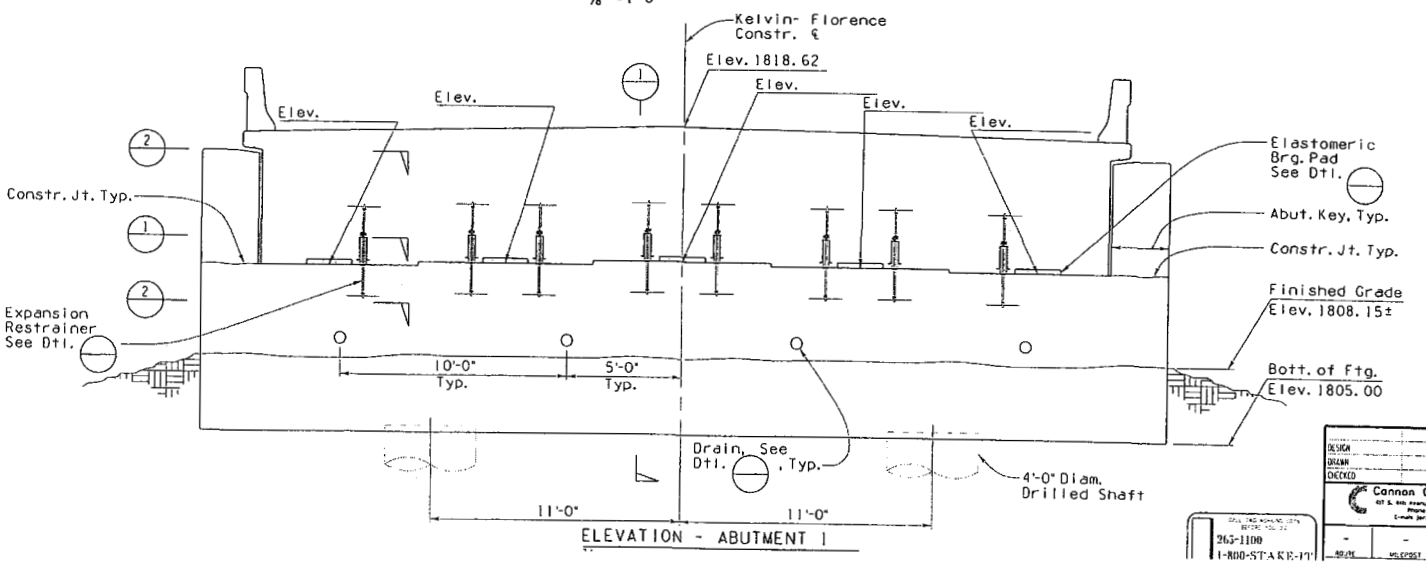


PLAN - ABUTMENT 1

⅜" = 1'-0"



ELEVATION - ABUTMENT 1

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			

	NAME	DATE
DESIGN	JSC	10/13
DRAWN	DY	10/13
CHECKED	JSC	10/13

Cannon Consultants, LLC
617 S. 4th Avenue • Tucson, Arizona 85701
Phone: (520) 730-3163
E-mail: jerry@cannonengineers.com

PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
ABUTMENT 1 PLAN
AND ELEVATION

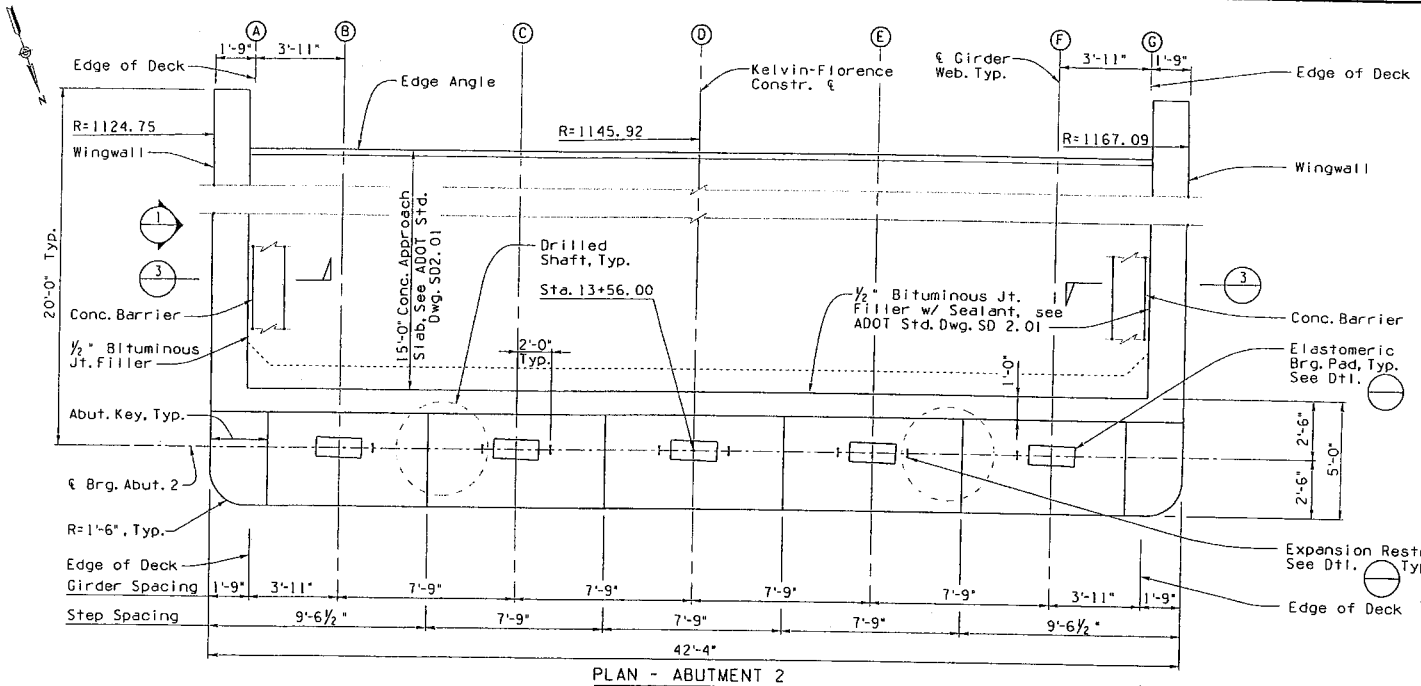
-	-	10645
ADOT	MILEPOST	STRUCTURE NO.

LOCATION
FLORENCE-KELVIN HIGHWAY

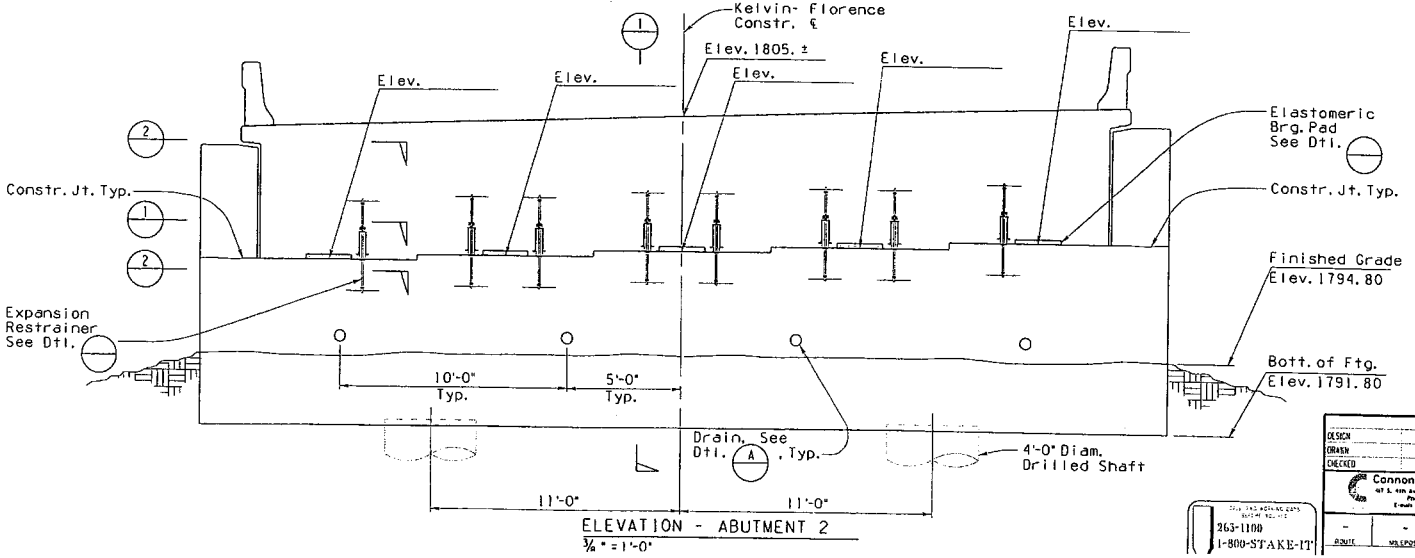
PRELIMINARY
STAGE III
60% REVIEW
NOT FOR CONSTRUCTION OR RECORDING
Expires 6/30/2014

263-1100
1-800-STAKE-IT

NO. | DESCRIPTION OF REVISION | DATE | MADE BY



PLAN - ABUTMENT 2
⅜" = 1'-0"



ELEVATION - ABUTMENT 2
⅜" = 1'-0"

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(1691)A			
		0000 PNPPN			

NO.	DESCRIPTION OF REVISION	DATE	MADE BY

	NAME	DATE
DESIGN	JEC	10/13
DRAWN	DY	10/13
CHECKED	JEC	10/13

Cannon Consultants, LLC
421 S. 4th Avenue • Tucson, Arizona 85701
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E-mail: jerry.cannon@gmail.com

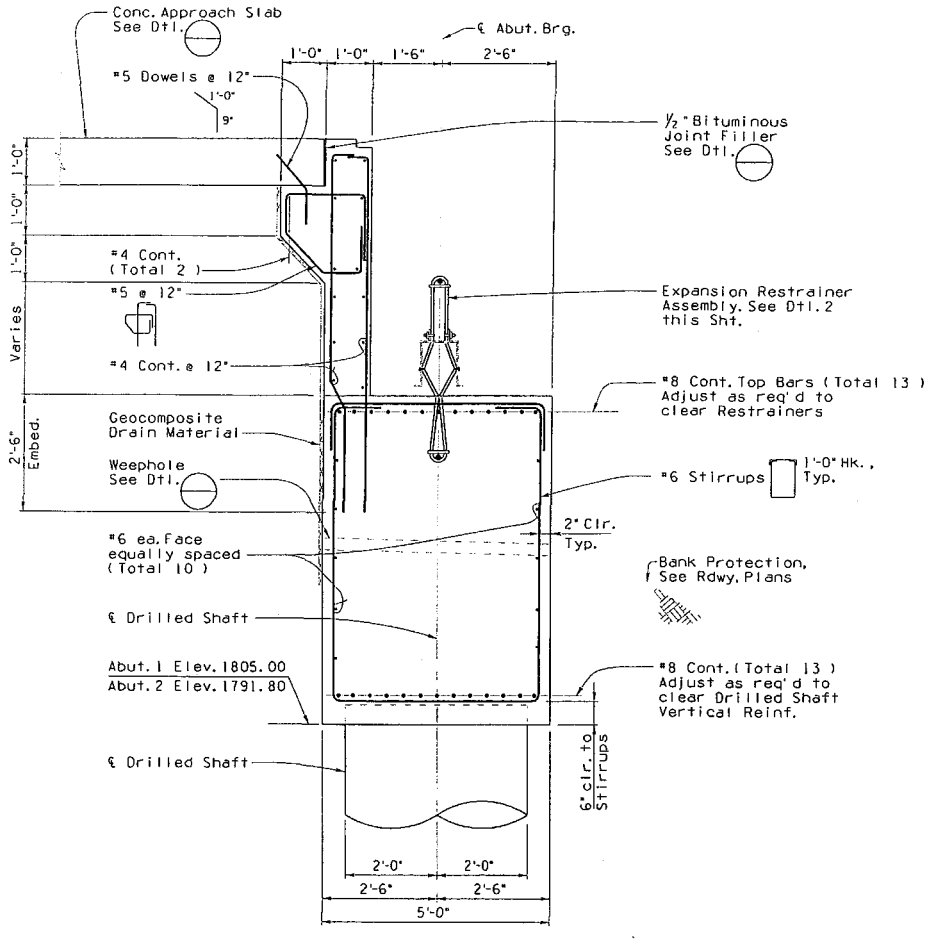
PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
ABUTMENT 2 PLAN
AND ELEVATION

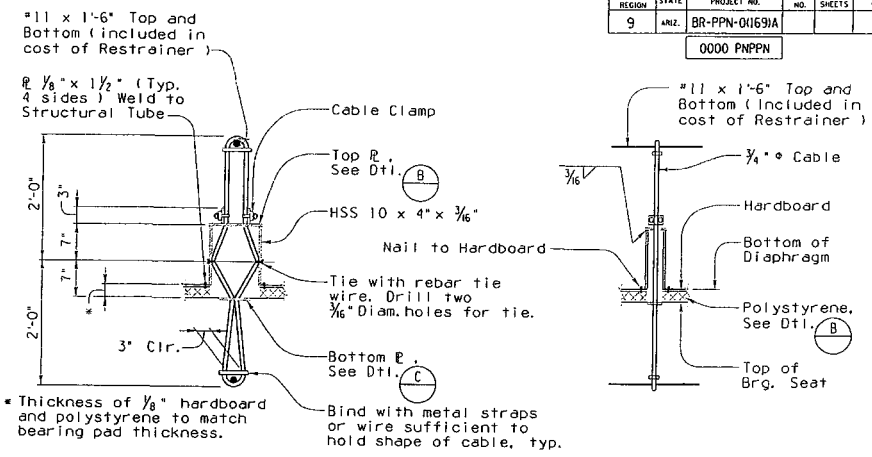
ROUTE	MILEPOST	10645 STRUCTURE NO.	LOCATION FLORENCE-KELVIN HIGHWAY
-	-		

263-1100
1-800-STAKE-IT

PRELIMINARY
STAGE III
60% REVIEW
NOT FOR CONSTRUCTION OR RECORDING
Expires 6/30/2014



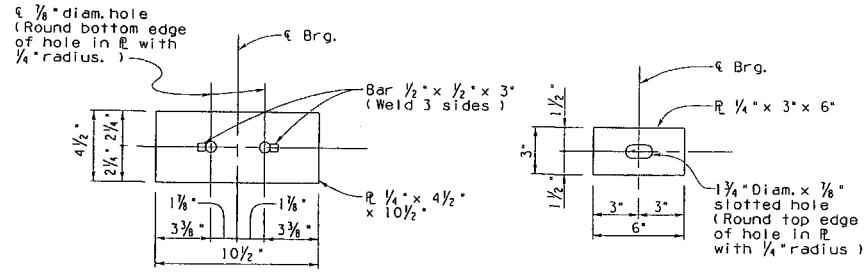
SECTION - ABUTMENT
¼" = 1'-0"
1



* Thickness of ⅛" hardboard and polystyrene to match bearing pad thickness.

ELEVATION

SECTION



TOP PLATE B

BOTTOM PLATE C

Notes:

1. Seal all openings in structural tube to prohibit concrete intrusion.
2. Restrainer cables shall be ¾" diam. preformed 6 x 19 galvanized cable with minimum breaking strength of 42 kips. A 3 foot long sample of cable shall be furnished to the Engineer for testing.
3. For additional information not shown or noted, see Standard Specifications.
4. Place restrainer units parallel to ℄ girder.

DETAIL - EXPANSION RESTRAINER
No Scale
2

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			

	NAME	DATE
DESIGN	[illegible]	10/13
DRAWN	DY	10/13
CHECKED	[illegible]	10/13

Cannon Consultants, LLC
[illegible] S. 4th Avenue • Tucson, Arizona 85705
Phone • (520) 791-7963
E-mail: [illegible]

PINAL COUNTY
PUBLIC WORKS DEPARTMENT

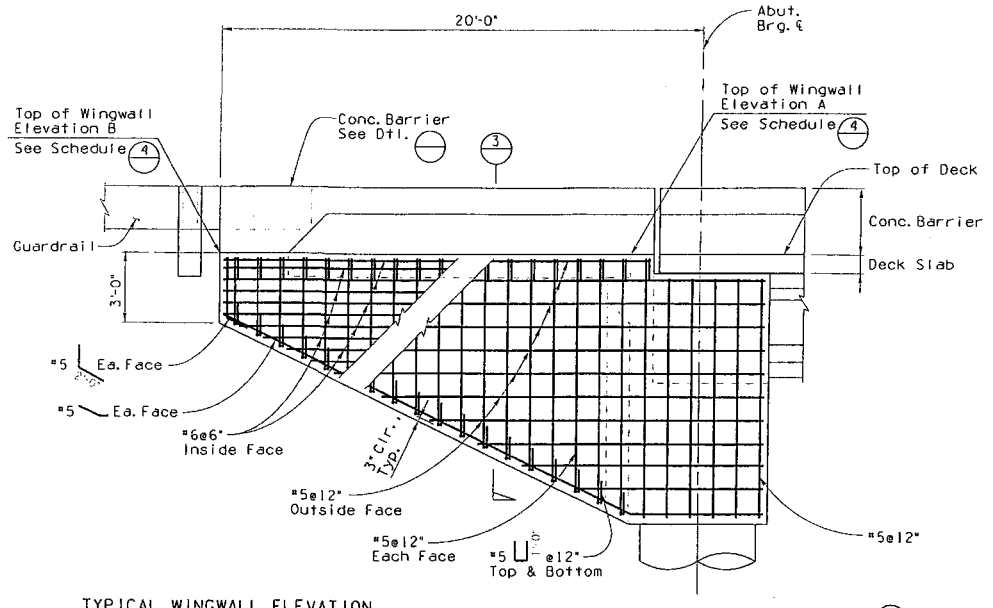
KELVIN BRIDGE OVER GILA RIVER
ABUTMENT DETAILS (1 OF 3)

-	-	10645
ROUTE	VOLUME(S)	STRUCTURE NO.

LOCATION
FLORENCE-KELVIN HIGHWAY

PRELIMINARY
STAGE II
60% SUBMITTAL
REVIEW
NOT FOR CONSTRUCTION OR RECORDING
Expires 6/30/2014

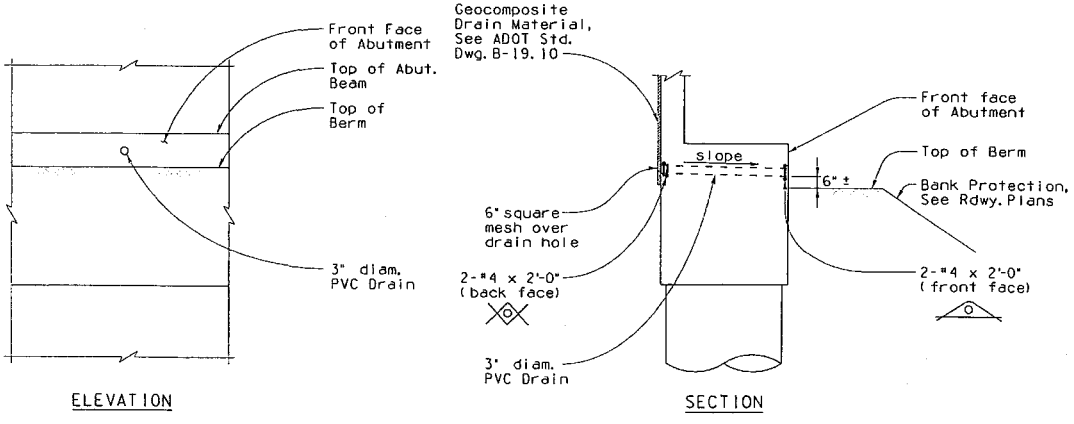
263-1100



TYPICAL WINGWALL ELEVATION

1/8" = 1'-0"

1



ELEVATION SECTION

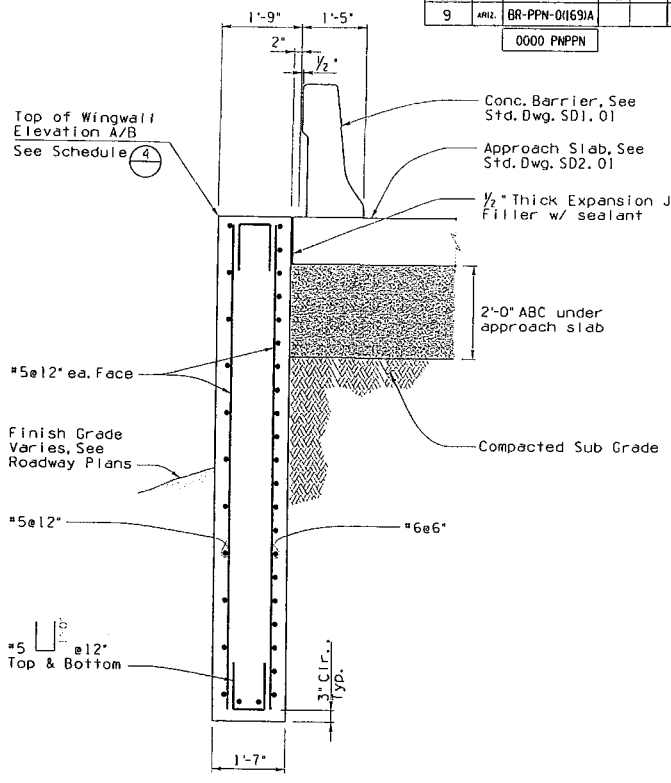
Notes:

1. Slope drain 1/2" per foot.
2. 6" square aluminum or galv. steel wire mesh hardware cloth w/ 1/4" x 1/4" ± openings (min. wire diam. 0.03"). Anchor securely to back face of Abutment.

ABUTMENT DRAIN DETAIL

No Scale

2



WINGWALL SECTION

3/4" = 1'-0"

3

TOP OF WINGWALL ELEVATION			
Location	Line	Elevation A	Elevation B
Abutment 1			
Abutment 2			

WINGWALL ELEVATION SCHEDULE

No Scale

4

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			

	NAME	DATE
DESIGN	JC	10/13
DRAWN	DY	10/13
CHECKED	JC	10/13

Cannon Consultants, LLC
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PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
WINGWALL DETAILS

ROUTE	MILEPOST	STRUCTURE NO.
-	-	10645

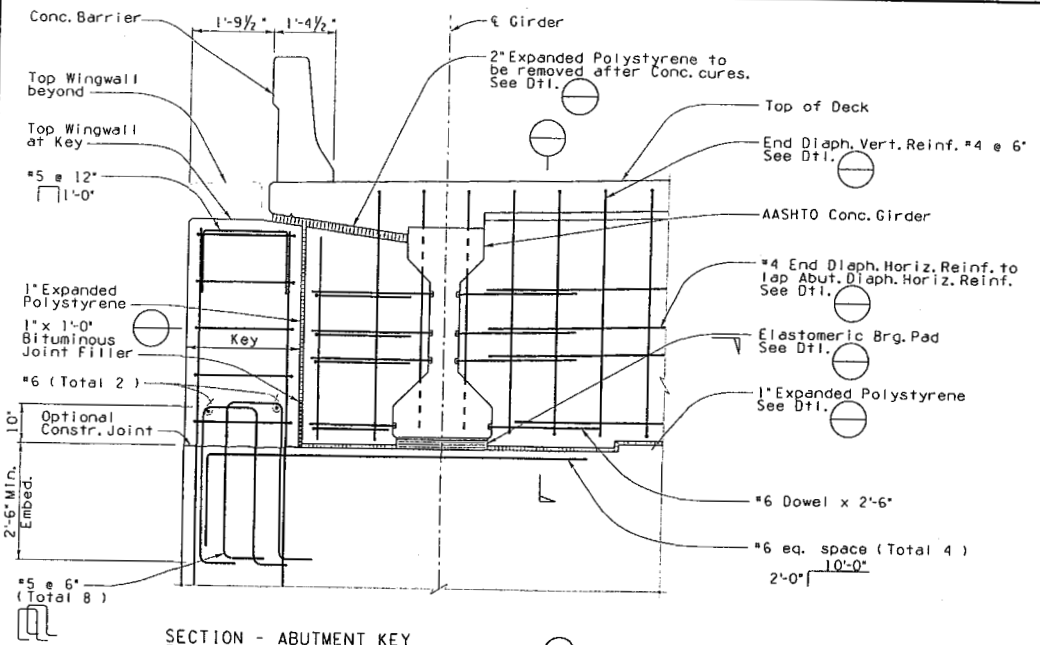
LOCATION
FLORENCE-KELVIN HIGHWAY

PRELIMINARY STAGE III
60% REVIEW
NOT FOR CONSTRUCTION OR RECORDING
Expires 6/30/2014

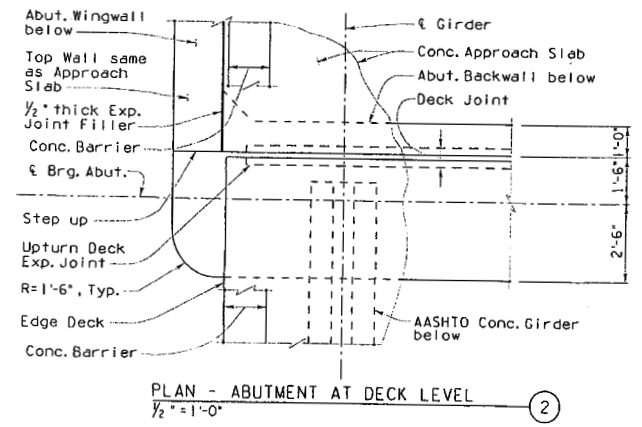
263-1100

10/07/2013

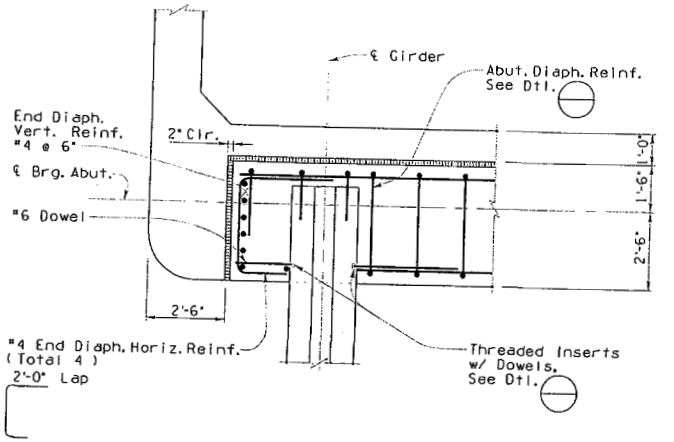
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			



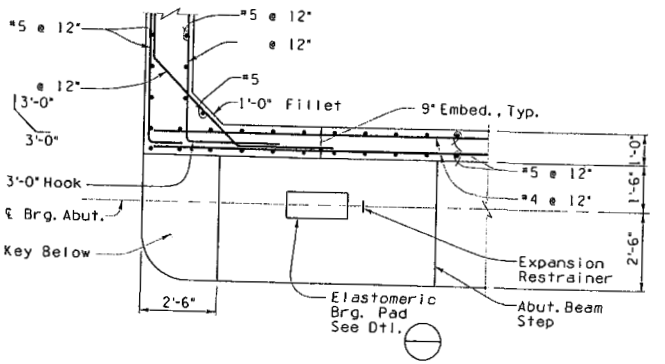
SECTION - ABUTMENT KEY
¼" = 1'-0" (1)



PLAN - ABUTMENT AT DECK LEVEL
½" = 1'-0" (2)



PLAN - ABUTMENT END DIAPHRAGM
½" = 1'-0" (3)



PLAN
½" = 1'-0" (4)

	NAME	DATE
DESIGN	JAL	10/13
DRAWN	DY	10/13
CHECKED	JAL	10/13

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PINAL COUNTY
PUBLIC WORKS DEPARTMENT

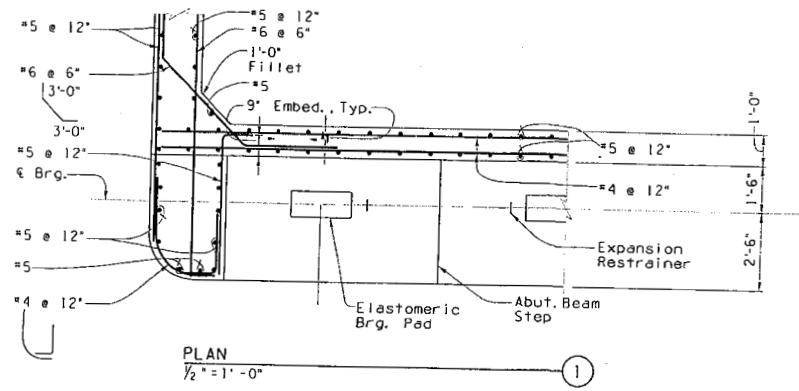
KELVIN BRIDGE OVER GILA RIVER
ABUTMENT DETAILS (2 OF 3)

ROUTE	EXCEPTS	STRUCTURE NO.	LOCATION
-	-	10645	FLORENCE-KELVIN HIGHWAY

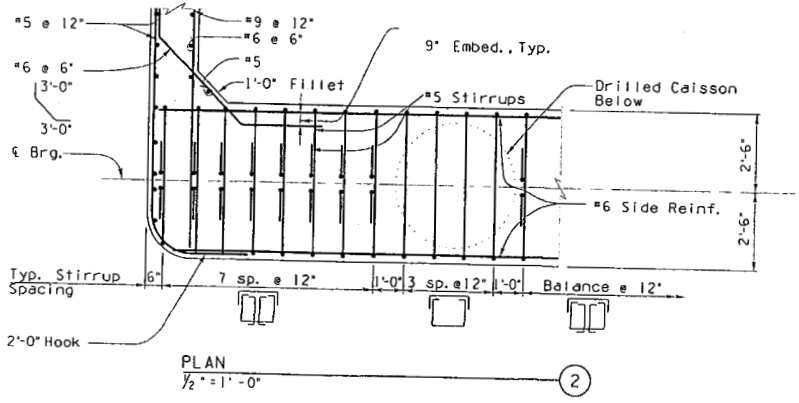
263-1100
1-800-STAKE-IT

PRELIMINARY
STATUS
60 %
REVIEW
NOT FOR CONSTRUCTION OR RECORDING
Expires 6/30/2014

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			



PLAN
½" = 1'-0" (1)



PLAN
½" = 1'-0" (2)

	NAME	DATE
DESIGN	LC	10/13
DRAWN	DY	10/13
CHECKED	JAC	10/13

Cannon Consultants, LLC
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PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
ABUTMENT DETAILS (3 OF 3)

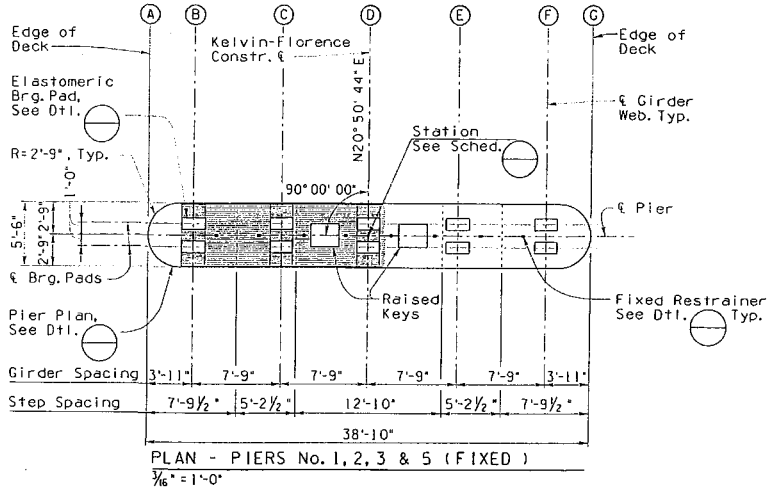
ROUTE	MILEPOST	STRUCTURE NO.	LOCATION
-	-	10645	FLORENCE-KELVIN HIGHWAY

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
1-800-STAKE-IT

PRELIMINARY
STAGE III
60% REVIEW
NOT FOR CONSTRUCTION OR RECORDING
Expires 6/30/2014

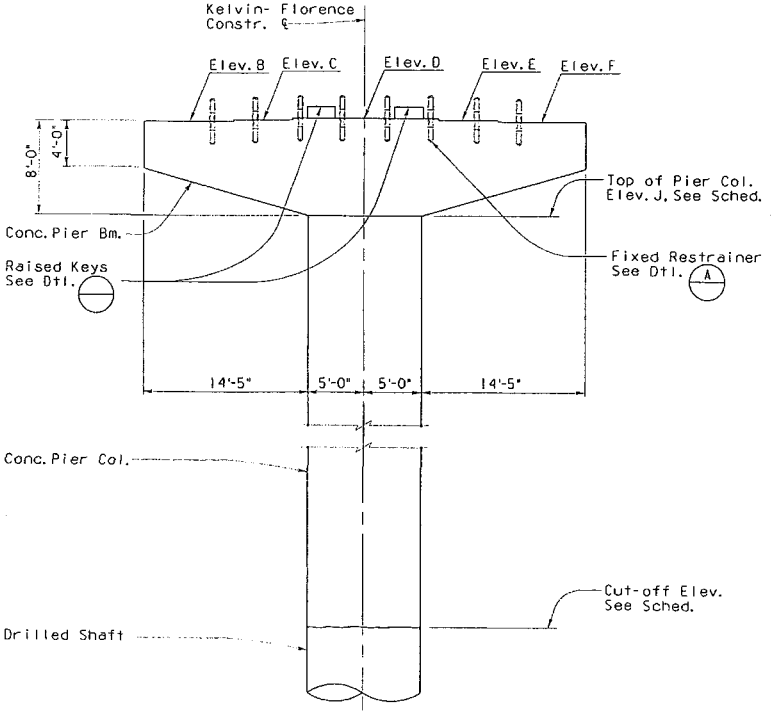
10/07/2013

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			



PLAN - PIERS No. 1, 2, 3 & 5 (FIXED)

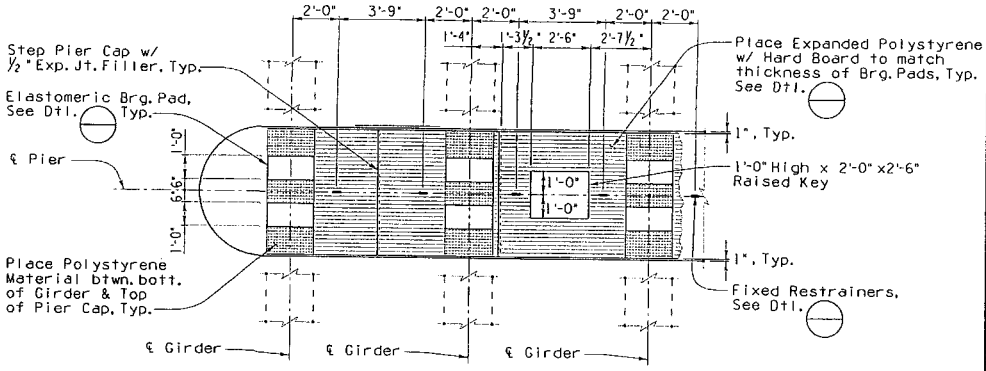
3/16" = 1'-0"



ELEVATION - PIERS No. 1, 2, 3 & 5 (FIXED)

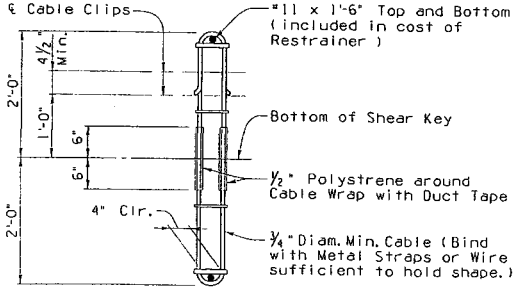
TABLE OF ELEVATION SCHEDULE (1)

Location	GIRDER ELEVATIONS B	C	D	E	F	PIER ELEVATIONS Height	Top Drilled Shaft Elev.	Top of Pier Col. Elev. J
Pier No. 1 Sta. 7+65.00								
Pier No. 2 Sta. 8+51.00								
Pier No. 3 Sta. 9+38.00								
Pier No. 5 Sta. 11+27.83								



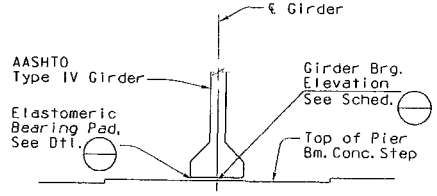
PARTIAL PLAN - FIXED PIERS No. 1, 2, 3 & 5 (2)

1/8" = 1'-0"



Note:
Restrainer Cables shall be ¼" Diam. preformed 6x19 galvanized with the minimum breaking strength of 42 Kips. One sample of cable 3 feet in length shall be furnished to the Engineer for testing.

FIXED RESTRAINER DETAIL (3)



GIRDER BEARING DETAIL

NO SCALE (4)

263-1100
1-800-STAKE-IT

	NAME	DATE
DESIGN	---	10/13
DRAWN	DY	10/13
CHECKED	---	10/13

Cannon Consultants, LLC

PINAL COUNTY PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
PIER No. 1, 2, 3 & 5
PIER PLAN, ELEV. & DTLS. (FIXED)

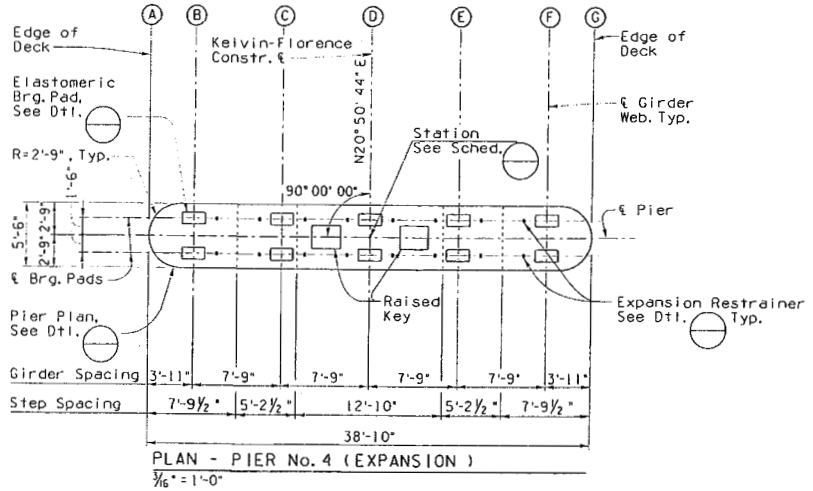
-	-	10645
DESIGNATION	MILEPOST	STRUCTURE NO.

LOCATION: FLORENCE-KELVIN HIGHWAY

PRELIMINARY STAGE III 60% PLANS IN REVIEW NOT FOR CONSTRUCTION OR RECORDING Expires 6/30/2014

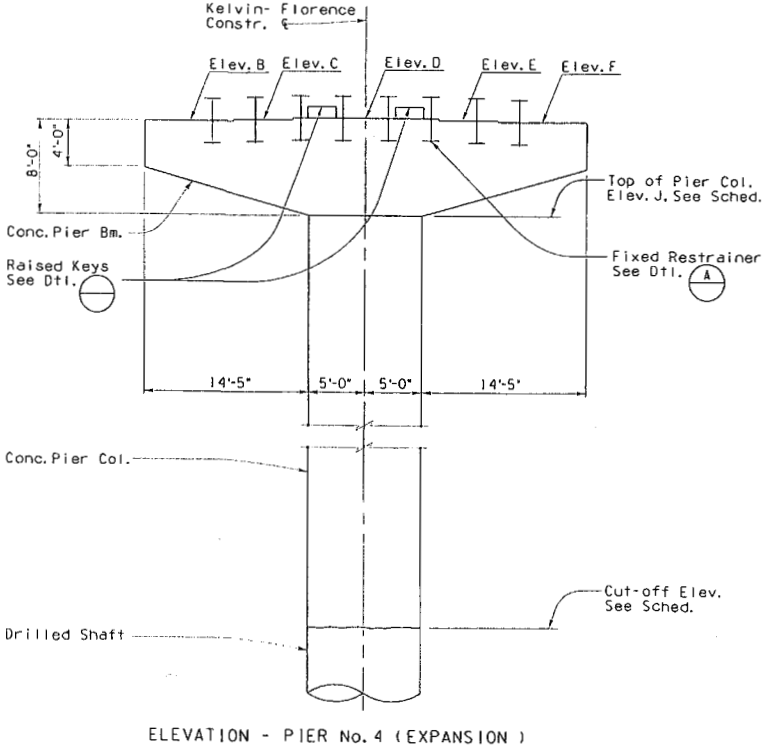
10/31/2013

D.C.T. 1/2014



PLAN - PIER No. 4 (EXPANSION)

3/16" = 1'-0"

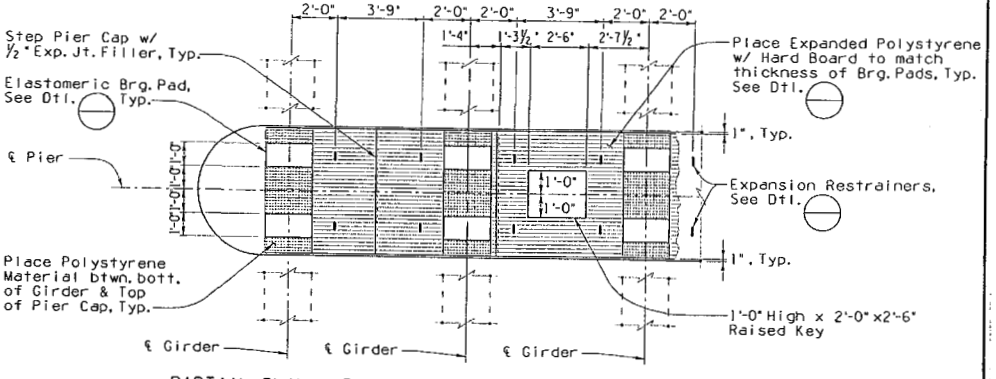


ELEVATION - PIER No. 4 (EXPANSION)

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			

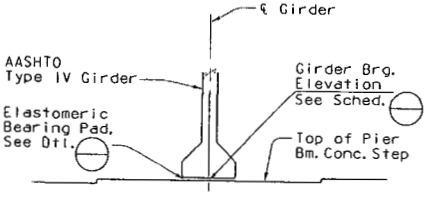
TABLE OF ELEVATION SCHEDULE (1)

	GIRDER ELEVATIONS					PIER ELEVATIONS		
Location	B	C	D	E	F	Height	Top Drilled Shaft Elev.	Top of Pier Col. Elev. J
Pier No. 4 Sta. 10+38.00								



PARTIAL PLAN - EXPANSION PIER No. 4 (2)

⅛" = 1'-0"



GIRDER BEARING DETAIL (4)

NO SCALE

	NAME	DATE
DESIGN	JC	10/13
DRAWN	DT	10/13
CHECKED	JSC	10/13

Cannon Consultants, LLC

PINAL COUNTY PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
PIER No. 4
PIER PLAN, ELEV. & DTLS.(EXP.)

ROUTE	SECTION	10645

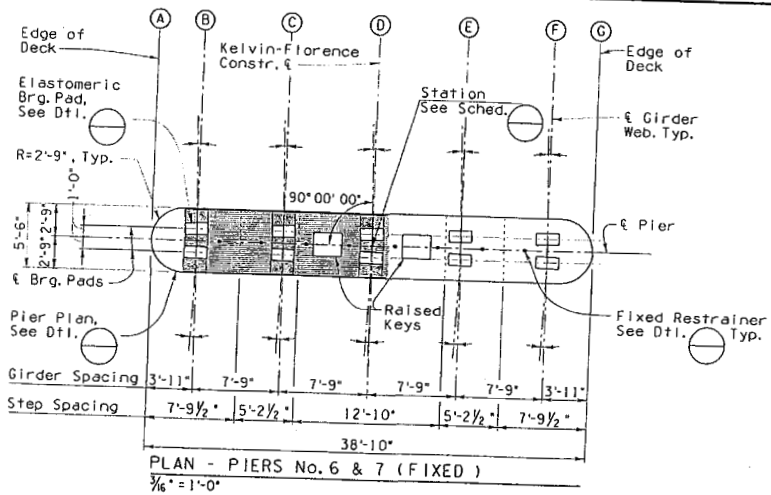
LOCATION: FLORENCE-KELVIN HIGHWAY

PRELIMINARY (STAGE II) 60% REVIEW NOT FOR CONSTRUCTION OR RECORDING

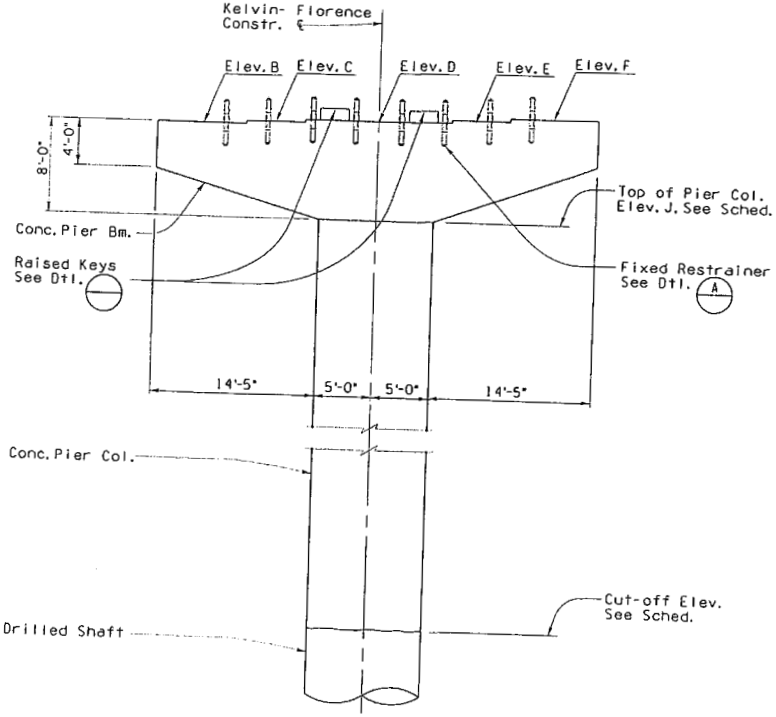
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			

TABLE OF ELEVATION SCHEDULE (1)

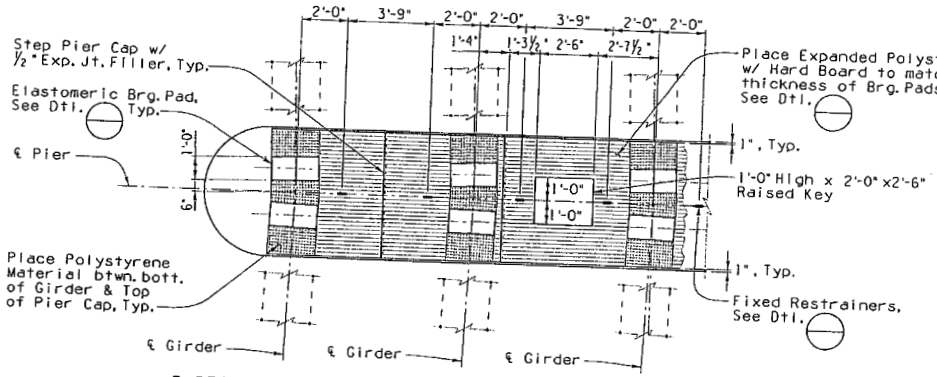
Location	GIRDER ELEVATIONS B	C	D	E	F	PIER ELEVATIONS Height	Top Drilled Shaft Elev.	Top of Pier Col. Elev. J
Pier No. 6 Sta. 12+00.00								
Pier No. 7 Sta. 12+90.00								



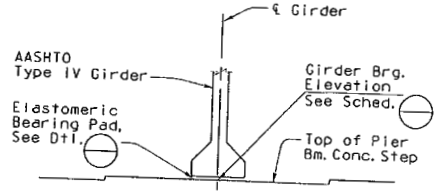
PLAN - PIERS No. 6 & 7 (FIXED)
3/16" = 1'-0"



ELEVATION - PIERS No. 6 & 7 (FIXED)
3/16" = 1'-0"



PARTIAL PLAN - FIXED PIERS No. 6 & 7
3/8" = 1'-0"
(2)



GIRDER BEARING DETAIL
NO SCALE
(4)

	NAME	DATE
DESIGN	JSC	10/13
DRAWN	DT	10/13
CHECKED	JSC	10/13

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Phone: (520) 792-1962
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263-1100

10645

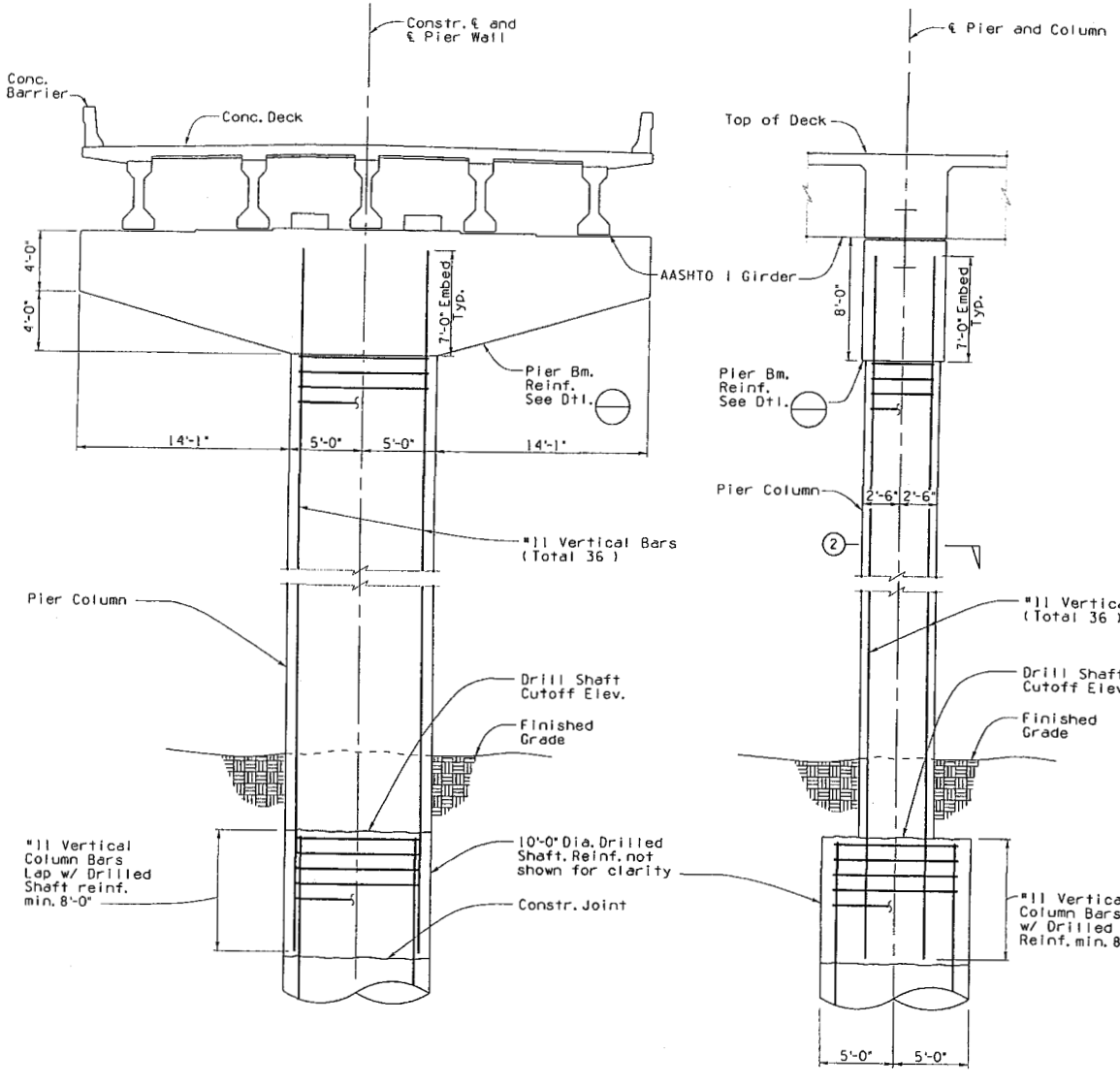
PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
PIER No. 6 & 7
PIER PLAN, ELEV. & DTLS.(FIXED)

LOCATION FLORENCE-KELVIN HIGHWAY

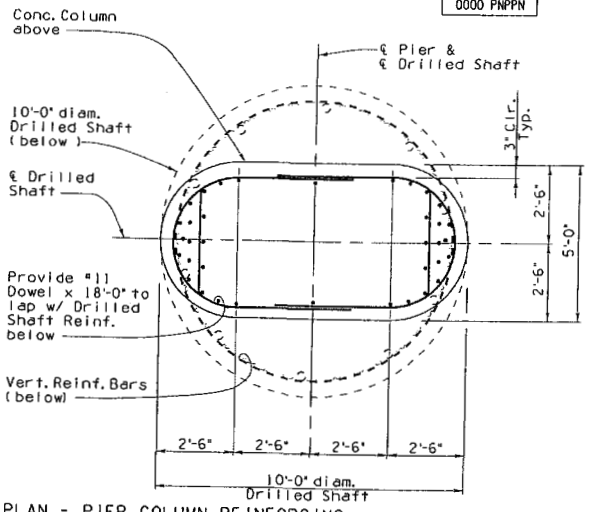
PRELIMINARY
STAGE III
60% REVIEW
NOT FOR CONSTRUCTION OR RECORDING

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			



TYPICAL PIER COLUMN REINFORCING ELEVATION - (FIXED PIER: No. 1, 2, 3, 5, 6 &7) (EXPANSION PIER: No. 4) (1)

¼" = 1'-0"



PLAN - PIER COLUMN REINFORCING (2)

½" = 1'-0"

	NAME	DATE
DESIGN	JJC	10/13
DRAWN	DY	10/13
CHECKED	JJC	10/13

Cannon Consultants, LLC

PINAL COUNTY PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER PIER COLUMN REINFORCING

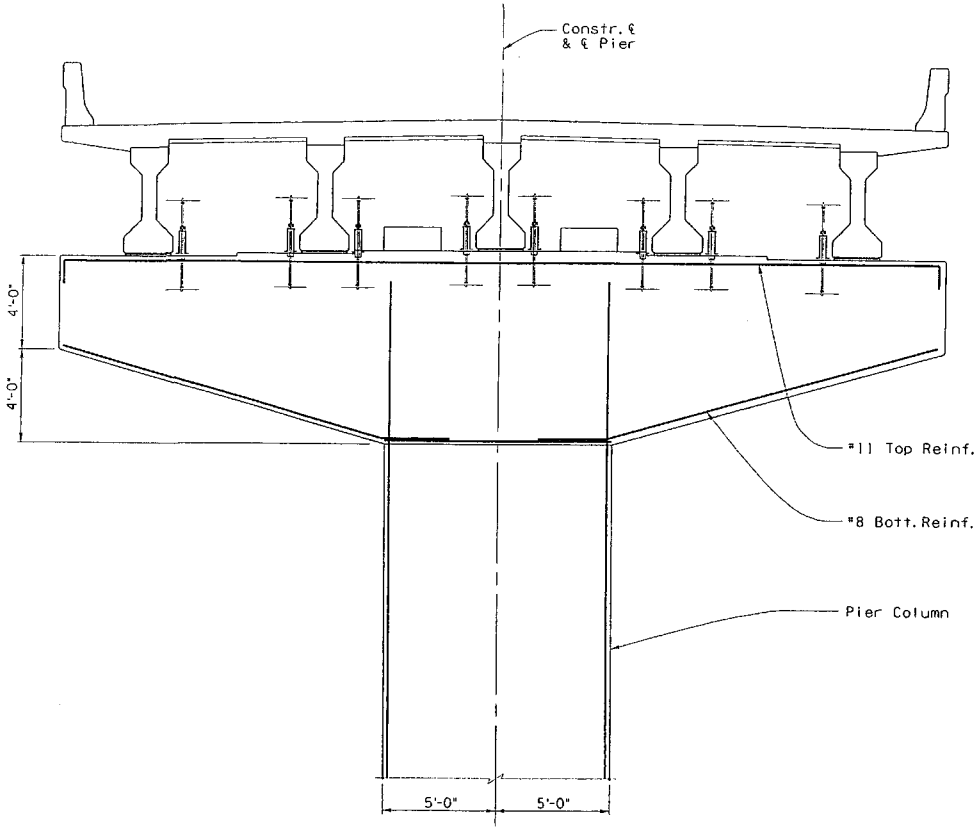
10645

LOCATION FLORENCE-KELVIN HIGHWAY

PRELIMINARY STAGE III REVIEW NOT FOR CONSTRUCTION OR RECORDING

60%

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			



TYPICAL PIER BEAM REINFORCING DETAIL (1)
3/8" = 1'-0"

CALL TWO WORKING DAYS BEFORE YOU DIG
263-1100
1-800-STAKE-IT
OUTSIDE MARICOPA COUNTY

	NAME	DATE
DESIGN	JFC	10/13
DRAWN	DY	10/13
CHECKED	JFC	10/13

Cannon Consultants, LLC
107 S. 4th Avenue • Tucson, Arizona 85701
Phone: (520) 798-3983
E-mail: jerry@cannonsgis.com

PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
PIER DETAILS

-	-	10645
ROUTE	REFERENCE	SHEET NO.

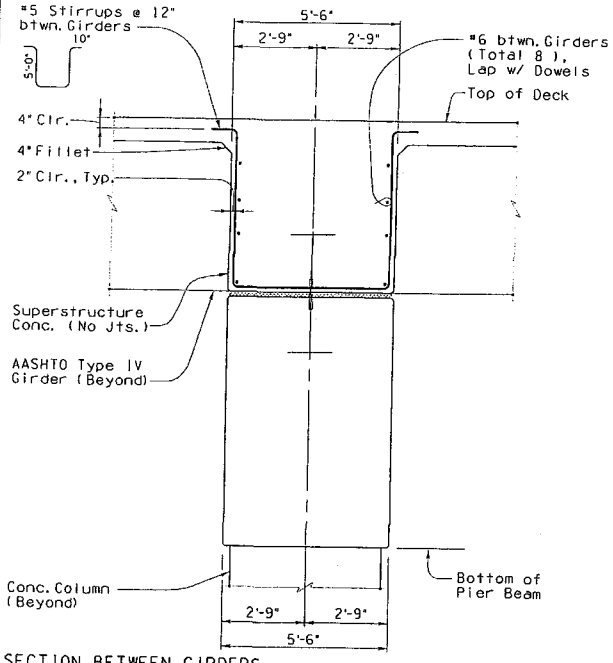
LOCATION
FLORENCE-KELVIN HIGHWAY

PRELIMINARY
NOT FOR CONSTRUCTION
60% REVIEW
NOT FOR CONSTRUCTION OR RECORDING

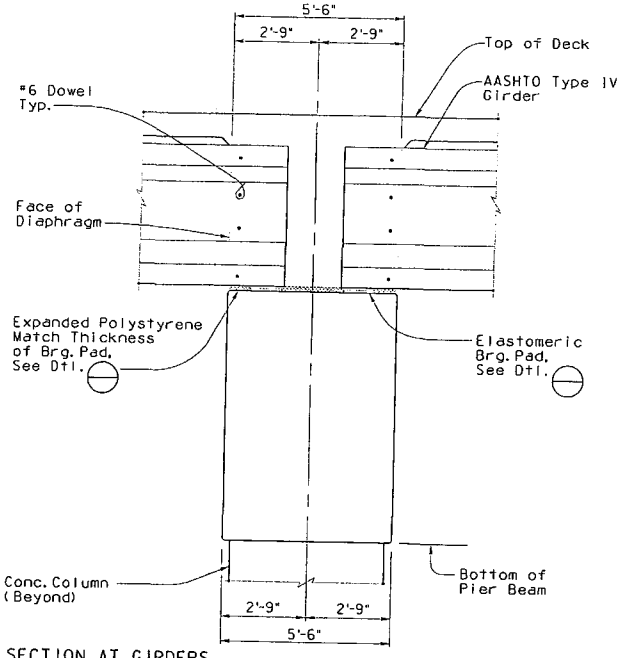
10/07/2013

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

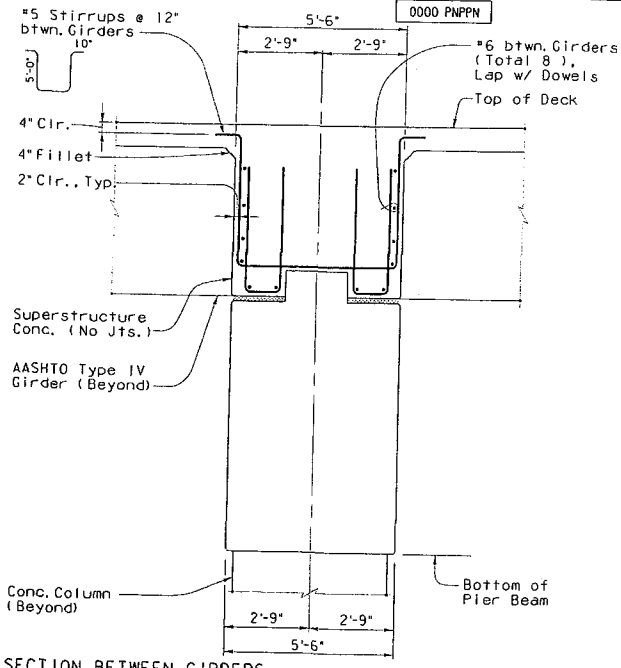
0000 PNPPN



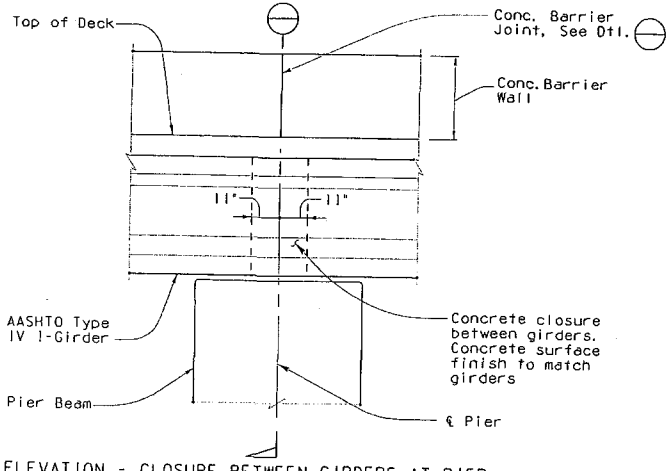
SECTION BETWEEN GIRDERS
½" = 1'-0" (1)



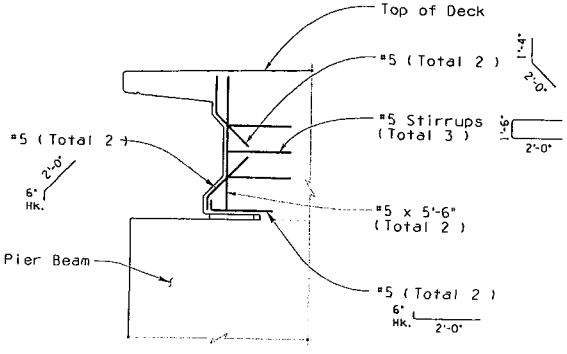
SECTION AT GIRDERS
½" = 1'-0" (2)



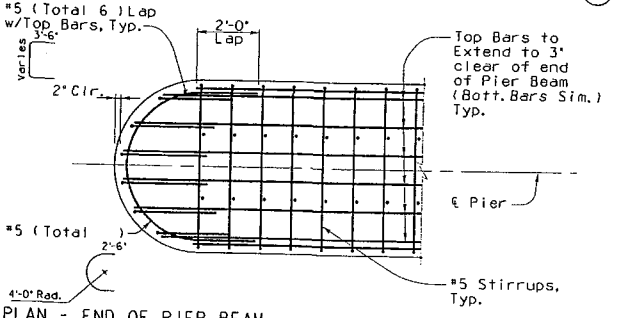
SECTION BETWEEN GIRDERS
½" = 1'-0" (3)



ELEVATION - CLOSURE BETWEEN GIRDERS AT PIER
⅓" = 1'-0" (4)



SECTION AT CONCRETE CLOSURE (5)



PLAN - END OF PIER BEAM
½" = 1'-0" (6)

	NAME	DATE
DESIGN	JAC	10/13
DRAWN	DY	10/13
CHECKED	JAC	10/13

Cannon Consultants, LLC

PINAL COUNTY
PUBLIC WORKS DEPARTMENT

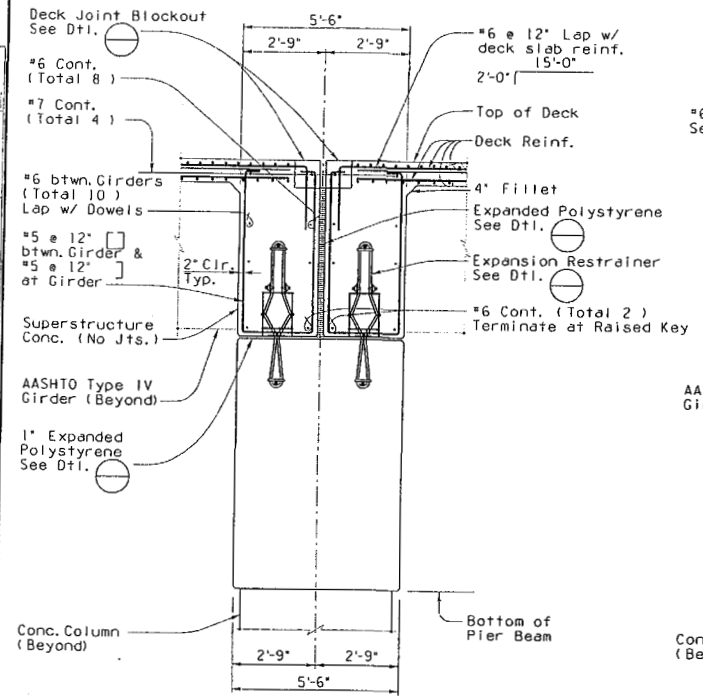
KELVIN BRIDGE OVER GILA RIVER
PIER DETAILS (FIXED)

ROUTE	SUBROUTE	STRUCTURE NO.	LOCATION
-	-	10645	FLORENCE-KELVIN HIGHWAY

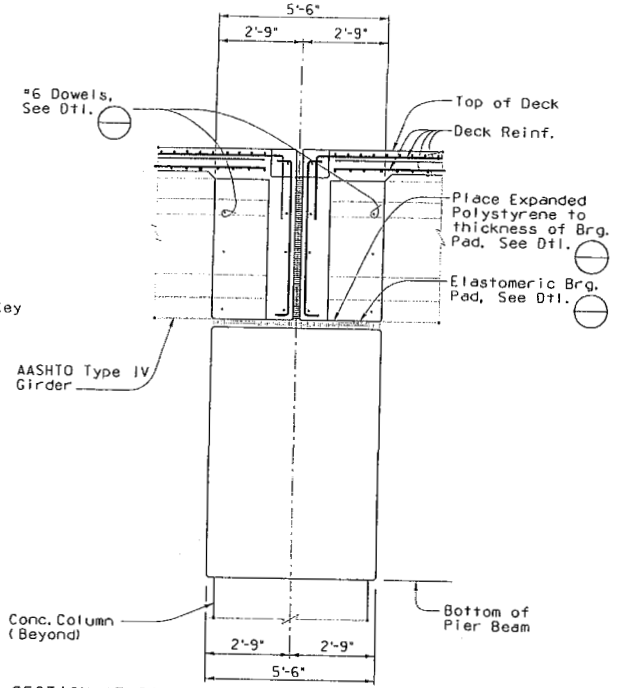
PRELIMINARY STAGE "B" 60% REVIEW NOT FOR CONSTRUCTION OR RECORDING

263-1100

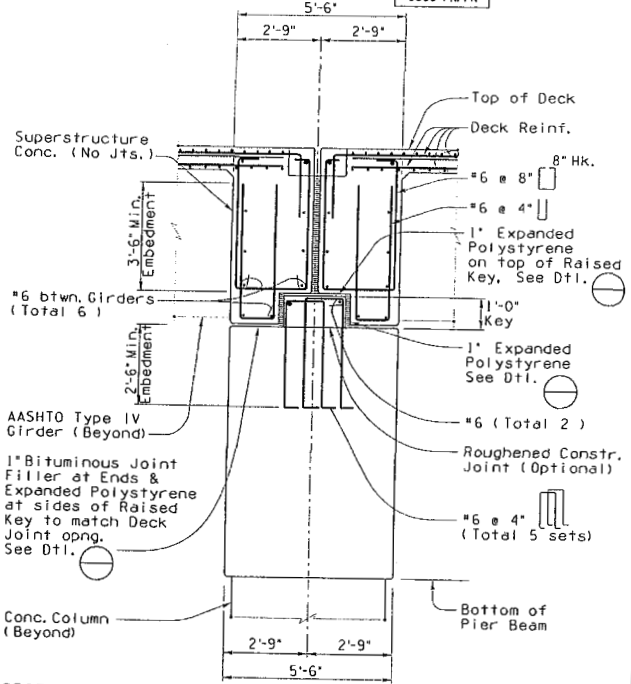
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			



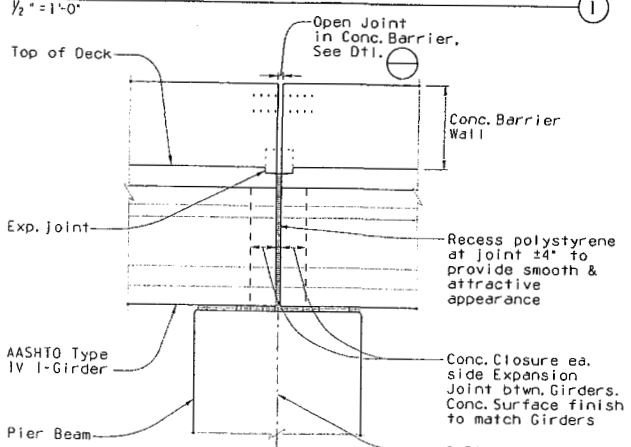
SECTION BETWEEN GIRDERS
1/2" = 1'-0" (1)



SECTION AT GIRDERS
1/2" = 1'-0" (2)



SECTION BETWEEN GIRDERS
1/2" = 1'-0" (3)



ELEVATION - CLOSURE BETWEEN GIRDERS AT PIER

	NAME	DATE
DESIGN	JAC	10/13
DRAWN	DT	10/13
CHECKED	JAC	10/13

Cannon Consultants, LLC

PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
PIER DETAILS (EXPANSION)

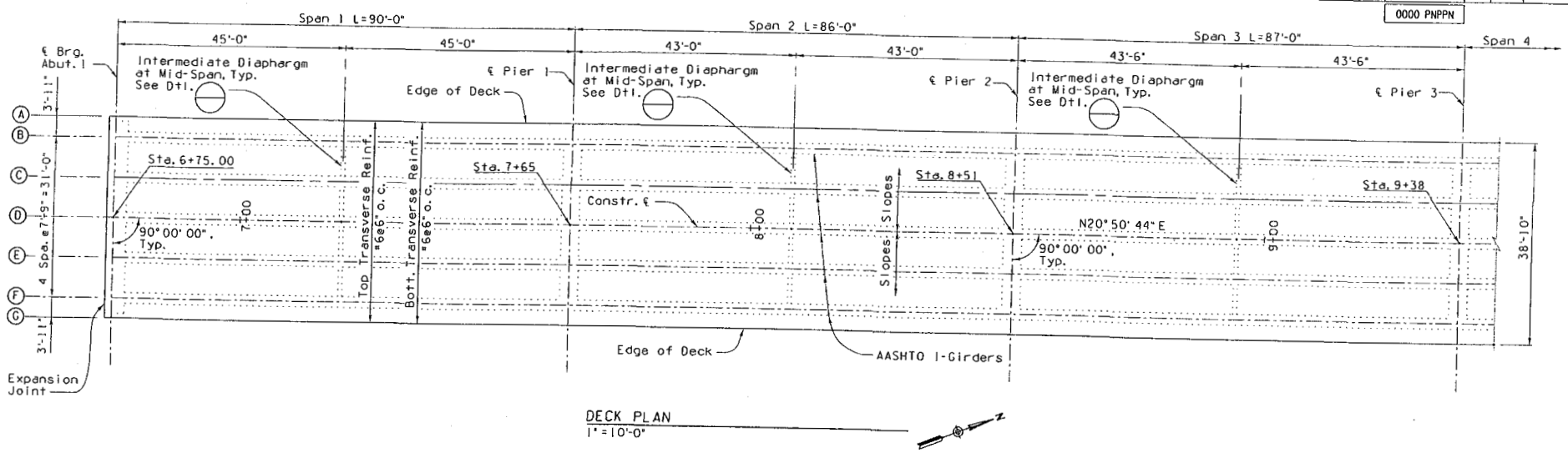
ROUTE	MILEPOST	STRUCTURE NO.	LOCATION
-	-	10645	FLORENCE-KELVIN HIGHWAY

PRELIMINARY
STAGE III
60% REVIEW
NOT FOR CONSTRUCTION OR RECORDING
Expires 6/30/2014

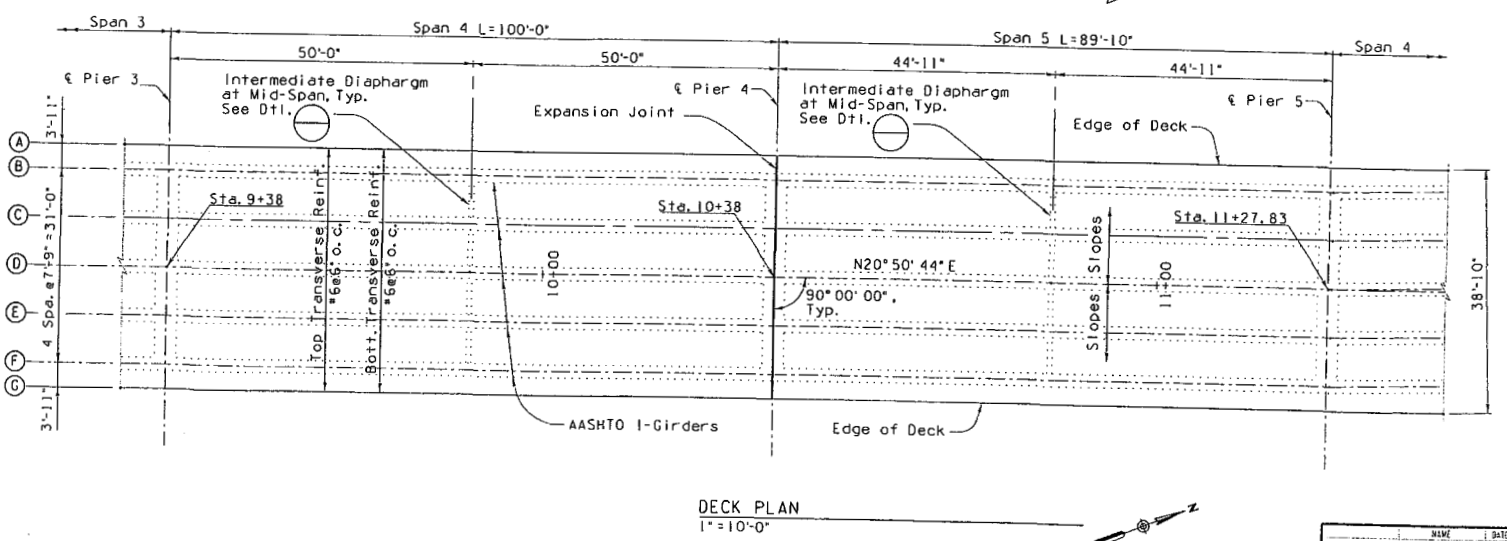
10/9/2013

263-1100
1-800-STAKE IT (for AZ only)

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			



DECK PLAN
1" = 10'-0"



DECK PLAN
1" = 10'-0"

Notes:
1. See General Notes Sheet B2
2. Deck Placing Sequence, See Dtl. ⊖
3. Top Slab Longitudinal Reinf. See Sheet and .
4. Transverse top and bott. deck reinf. is normal to constr. ℄ with spacing measured along constr. ℄.
5. Concrete Barrier Joints:
   A. Provide open Joints at Abutments and Expansion Pier, See Dtl. ⊖
   B. Provide joints at ℄ Piers.
6. Girder Spacing is measured along ℄ bearing Abut. and ℄ Pier, Typ.

	NAME	DATE
DESIGN	JAC	10/13
DRAWN	DY	10/13
CHECKED	JAC	10/13

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PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
DECK PLAN (1 of 2)

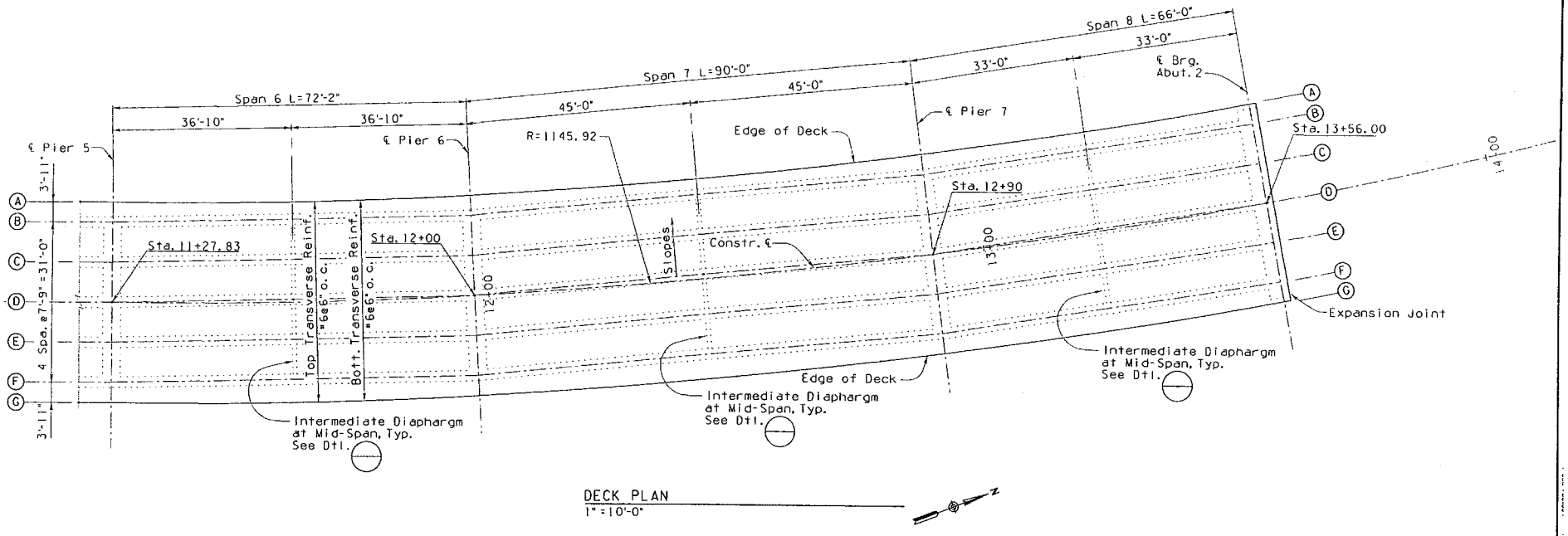
10645

LOCATION
FLORENCE-KELVIN HIGHWAY

PRELIMINARY
STAGE III
60%
REVIEW
NOT FOR CONSTRUCTION OR RECORDING

263-1180

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			



DECK PLAN
1" = 10'-0"

Notes:
1. See General Notes Sheet B2
2. Deck Placing Sequence, See Dtl. ⊖
3. Top Slab Longitudinal Reinf. See Sheet and .
4. Transverse top and bott. deck reinf. is normal to constr. ℄ with spacing measured along constr. ℄.
5. Concrete Barrier Joints:
   A. Provide open joints at Abutments and Expansion Pier, See Dtl. ⊖
   B. Provide joints at ℄ Piers.
6. Girder Spacing is measured along ℄ bearing Abut. and ℄ Pier, Typ.

	NAME	DATE
DESIGN	JAC	10/13
DRAWN	DF	10/13
CHECKED	JAC	10/13

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PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
DECK PLAN (2 of 2)

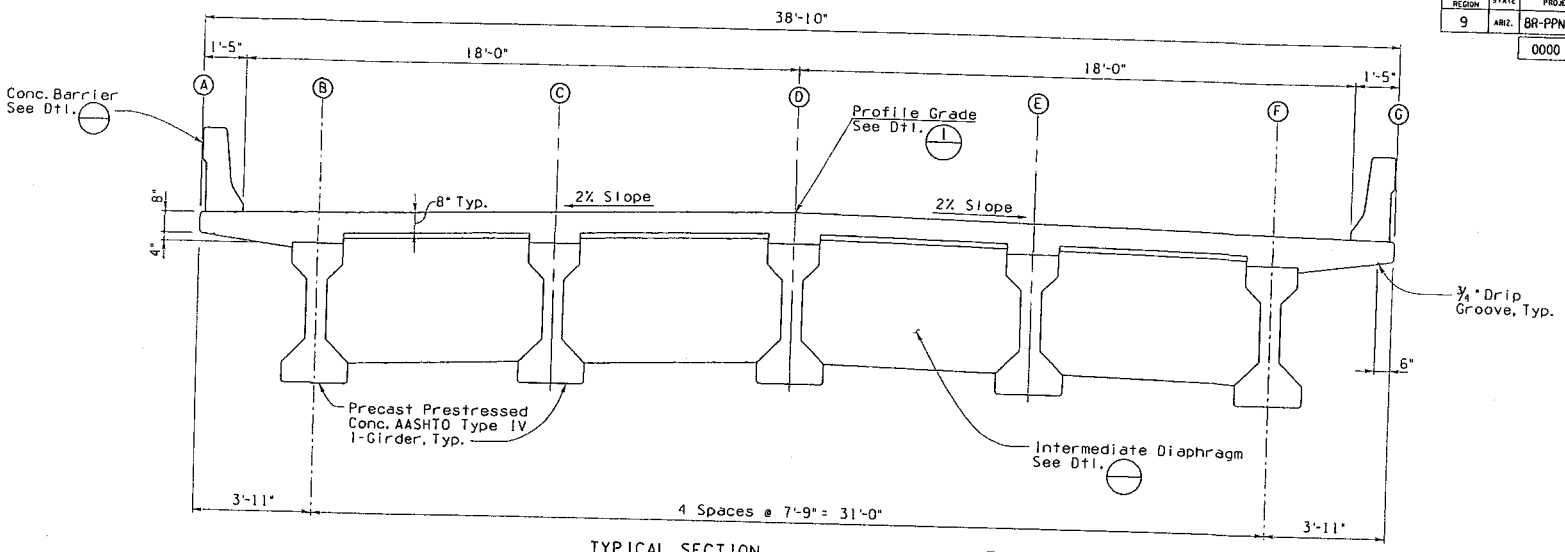
LOCATION: FLORENCE-KELVIN HIGHWAY

PRELIMINARY
STAGE II
60% REVIEW
NOT FOR CONSTRUCTION OR RECORDING

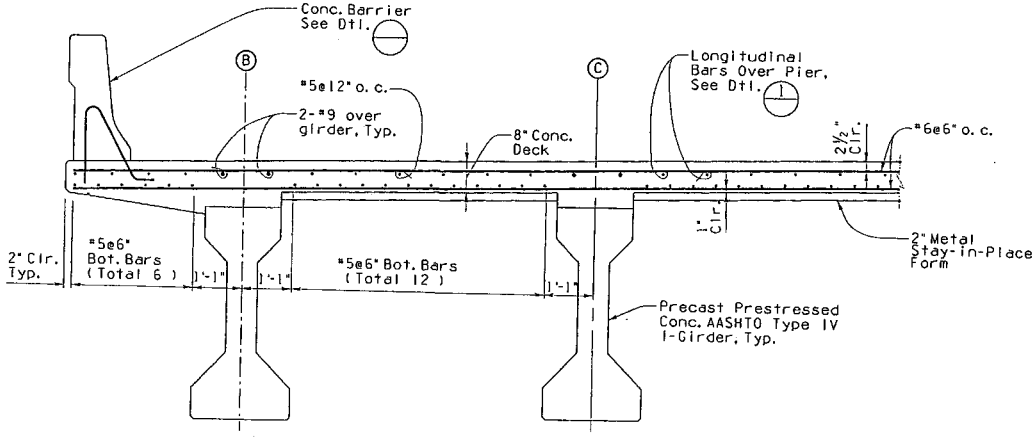
263-1100

- - 10645

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			



TYPICAL SECTION
½" = 1'-0" — 1



PARTIAL TYPICAL SECTIONS
¼" = 1'-0 — 2

Notes:

1. Longitudinal Deck Reinforcement shall be placed parallel to construction centerline.
2. Transverse Reinforcement shall be placed perpendicular to construction centerline.
3. All continuous horizontal reinforcement steel in the deck, diaphragm, and barriers may be spliced where required with minimum lap length as specified:

   #4 bars..... 1'-6"
   #5 bars..... 2'-0"
   #6 bars..... 2'-10"

4. Bars shall not be spliced within the required lap length of the adjacent bars.
5. Do not splice transverse reinforcement in the slab deck.
6. Contractor will submit shop drawings showing lap splice locations to the Engineer for approval prior to fabrication.
7. Size and spacing of barrier reinforcement bars cast into the deck slab vary at joints and abutments. See sheet for details.
8. Stay-in-place steel deck forms may be used at the Contractor's option. See Sheet .

	NAME	DATE
DESIGN	JAC	10/13
DRAWN	DY	10/13
CHECKED	JAC	10/13

Cannon Consultants, LLC
417 S. 4th Avenue • Tucson, Arizona 85701
Phone: (520) 326-2662
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PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
DECK DETAILS

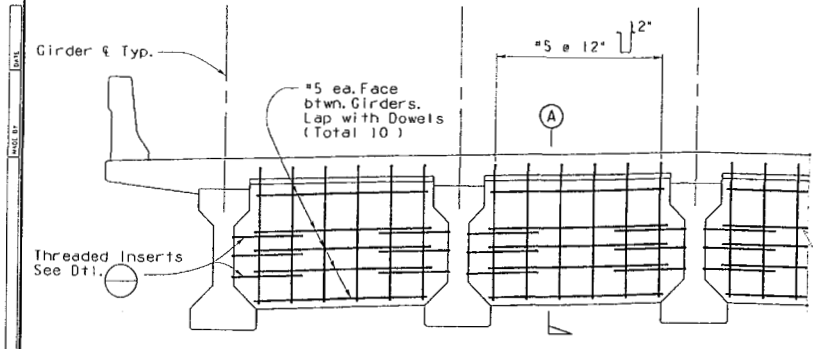
ROUTE	MILEPOST	STRUCTURE NO.	LOCATION
-	-	10645	FLORENCE-KELVIN HIGHWAY

ARIZONA BLUE STAKE, INC.
263-1100
1-800-STAKE-IT

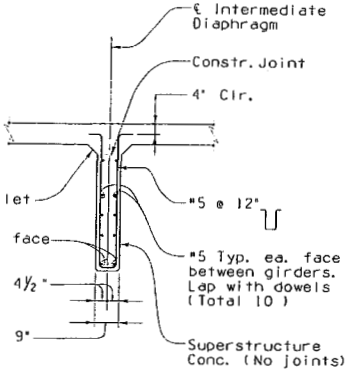
PRELIMINARY
STAGE III
60% REVIEW
NOT FOR CONSTRUCTION OR RECORDING
Expires 6/30/2014

HOLT DESCRIPTION OF REVISION | DATE | MADE BY | NO. | DESCRIPTION OF REVISION | DATE | MADE BY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			

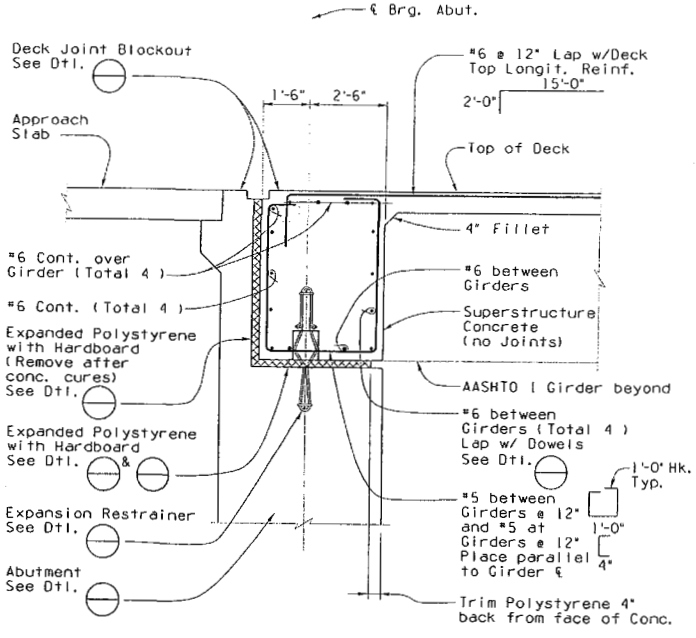


ELEVATION

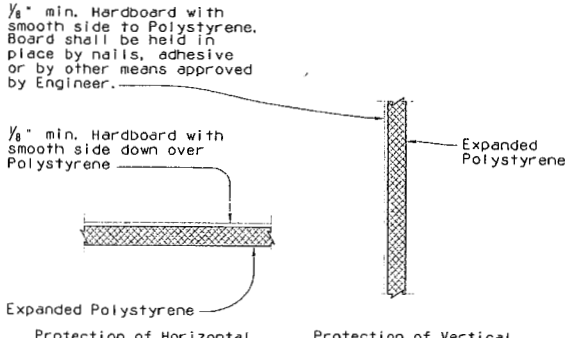


SECTION A

TYPICAL ELVATION AT INTERMEDIATE DIAPHRAGM
½" = 1'-0" — 1



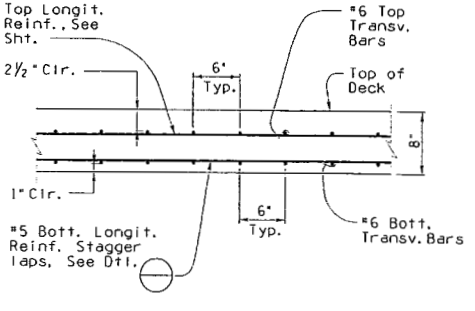
DETAIL
½" = 1'-0" — 2



Notes:

1. Hardboard to be used on any polystyrene face against which concrete is to be placed.
2. Petroleum products not allowed for removal of polystyrene.

POLYSTYRENE PROTECTION DETAIL
No Scale — 3



LONGITUDINAL DECK SECTION
No Scale — 4

	NAME	DATE
DESIGN	JAC	10/13
DRAWN	DY	10/13
CHECKED	JAC	10/13

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PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
DECK SECTION & DETAILS

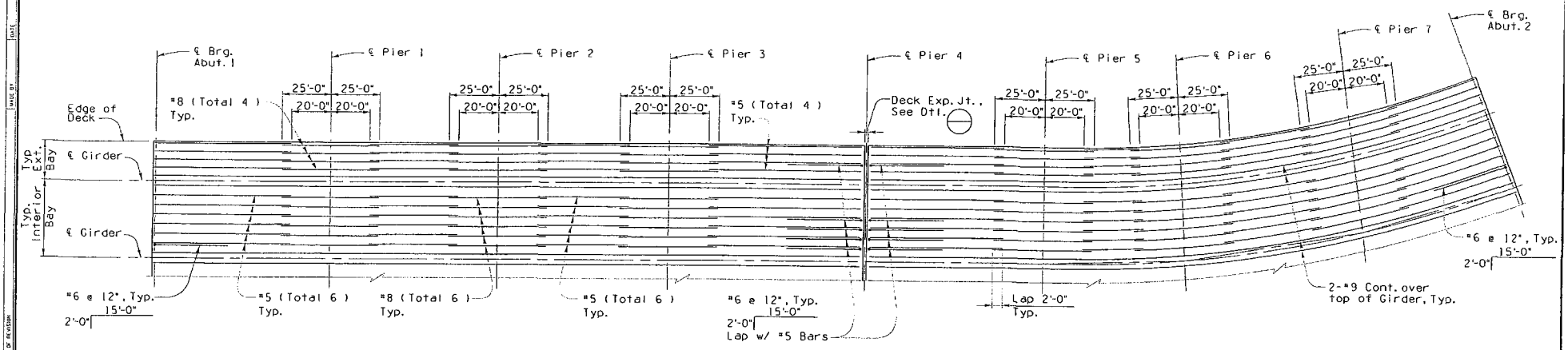
ROUTE	MILEPOST	10645 STRUCTURE NO.	LOCATION FLORENCE-KELVIN HIGHWAY
-	-		

PRELIMINARY STAGE II 60% REVIEW NOT FOR CONSTRUCTION OR RECORDING Expires 6/30/2014

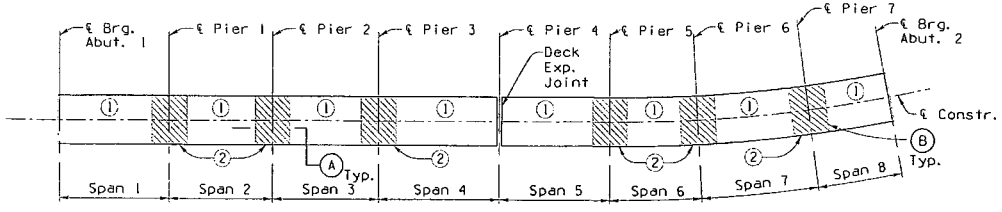
263-1100
1-800-STAKE-IT

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			

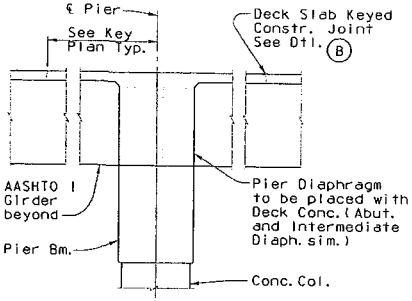
0000 PNPPN



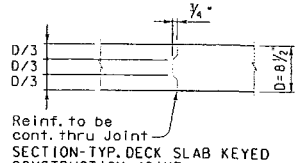
TYP. DECK TOP LONGITUDINAL REINFORCING PLAN
No Scale



KEY PLAN



SECTION-TYP. CONTINUOUS DECK SLAB OVER PIERS — A



SECTION-TYP. DECK SLAB KEYED CONSTRUCTION JOINT — B

Notes for Deck Placing:

1. Longitudinal construction joints in deck shall not be allowed except as shown or approved by the Engineer. Transverse construction joints shall be located in accordance with deck placing sequence plan.
2. The numbers shown thus: ① etc., indicate deck pouring sequence. The Contractor shall allow a minimum of 12 hours between adjacent pours.
3. Diaphragms shall be placed when deck is placed.
4. Reinf. to be continuous through construction joints.
5. Alternative pouring sequences will require a no cost supplemental agreement detailing joint locations and conditions and shall be subject to approval of the Engineer.

DECK PLACING SEQUENCE DETAILS — 1
No Scale

Notes:

1. See General Notes, Sheet .
2. All #5 cont. bars to be lap spliced in middle ⅓ of span only, u.n.o. Stagger all splices. See Dtl.
3. Deck Top longitudinal reinforcement is parallel to Bridge Profile Control Grade Line and spaced equally between girders.

	NAME	DATE
DESIGN	JAC	10/13
DRAWN	DT	10/13
CHECKED	JAC	10/13

Cannon Consultants, LLC
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Phone: (520) 398-2643
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PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
DECK DETAILS

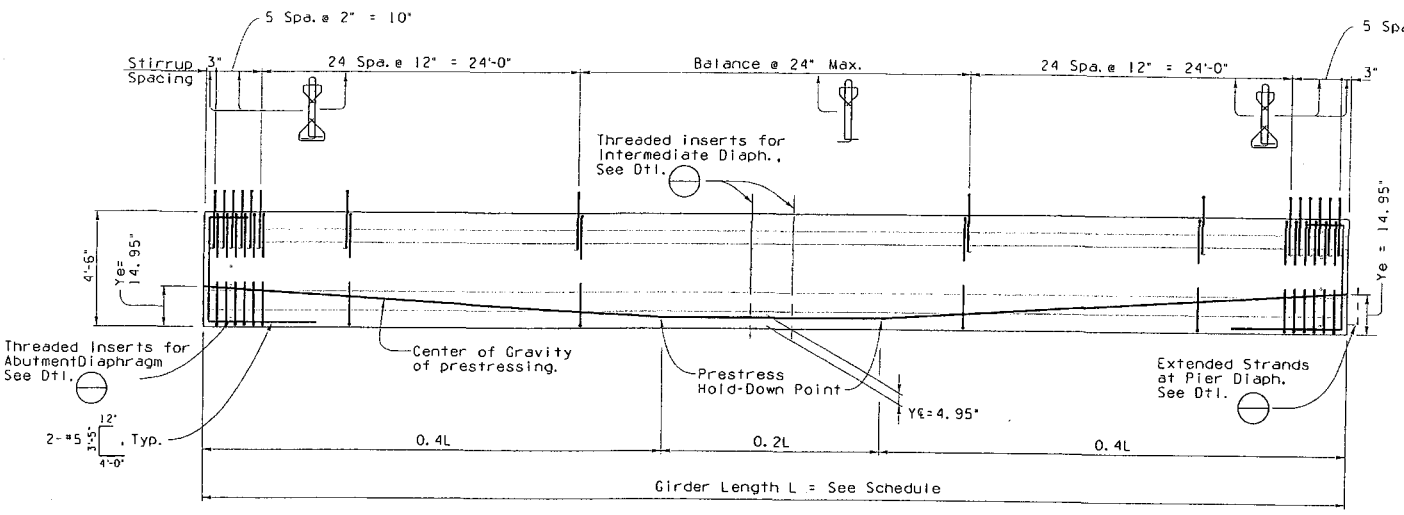
PRELIMINARY STAGE III 60% REVIEW NOT FOR CONSTRUCTION OR RECORDING Expires 6/30/2014

ADD'E	WILDCAT	10645 STRUCTURE NO.
-	-	

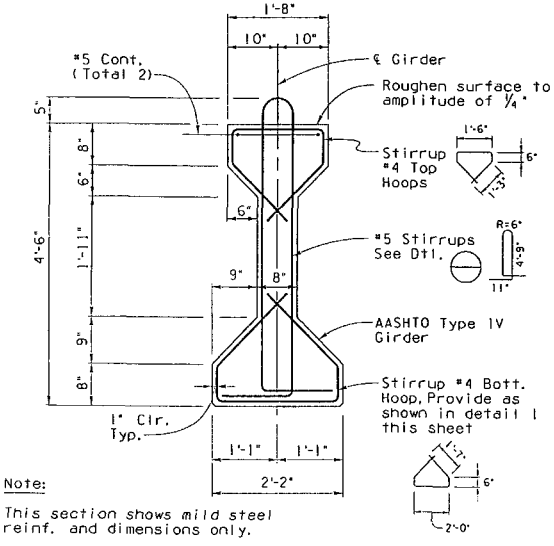
LOCATION: FLORENCE-KELVIN HIGHWAY

263-1100
1-800-STAKE-IT

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-011(69)A			
		0000 PNPPN			



GIRDER ELEVATION (1)
No Scale



Note:
This section shows mild steel reinf. and dimensions only.

TYPICAL GIRDER SECTION (2)
No Scale

PRESTRESSED 'I' GIRDER NOTES

Prestressed Concrete Girders
AASHTO Type IV Girders

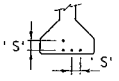
Concrete Strength
f'ci = See Schedule, ultimate compressive strength of concrete at time of initial prestressing.
f'c = See Schedule, ultimate concrete strength at 28 days.

Working Force
P_W = The force remaining per girder after losses. Total assumed losses= See Schedule

Strand
½" diameter, ASTM A416, Grade 270 7-wire low relaxation prestressing strand with initial strand tension equal to 31,000 lbs. Use of masked strands will not be allowed.

Prestressing
All girders shall be prestressed by the pretensioning method only. A min. of 2 depressions (as shown) within the girder shall be used to position the tendons. The center of gravity of the prestressing steel shall be as shown at the ends and at the midspan of the girders. Ends of girders shall be constructed so they will be vertical when erected. Tops of girders shall be roughened with roughness amplitude of ¼". Extend the prestressing strand beyond the ends of girders at the pier end only as shown. Cut all other strands flush.

Clearances for Pretensioned Strands
'S' is measured between centers of adjacent strands. The min. distance 'S' is 2" for ½" diam. strands. Approval of Engineer required for deviation.



Build-Up
All deflections and cambers assumed to be parabolic.

Estimated build-up at midspan is based on estimated long-term girder deflection and camber, and is provided for bidding purposes only.

Screed elevations will be provided by the Engineer during construction upon request.

Adjustments to build-up may be required to accommodate as-built conditions or girder profile at time of deck placement. All adjustments subject to review and approval by the Engineer. Girder encroachment into deck slab will not be allowed. See Dtl.

	NAME	DATE
DESIGN	JAC	10/13
DRAWN	DT	10/13
CHECKED	JAC	10/13

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PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
GIRDER DETAILS

PRELIMINARY STAGE II 60% REVIEW NOT FOR CONSTRUCTION OR RECORDING

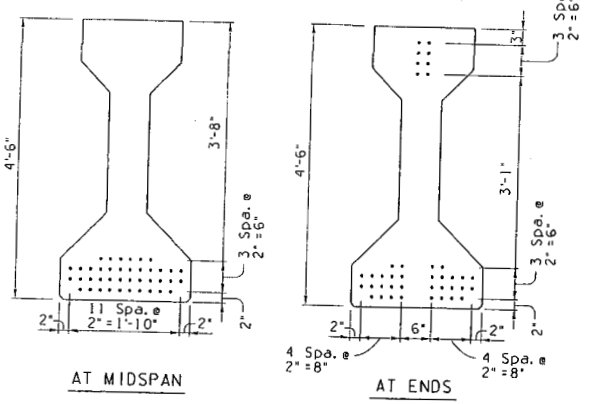
263-1101

10645

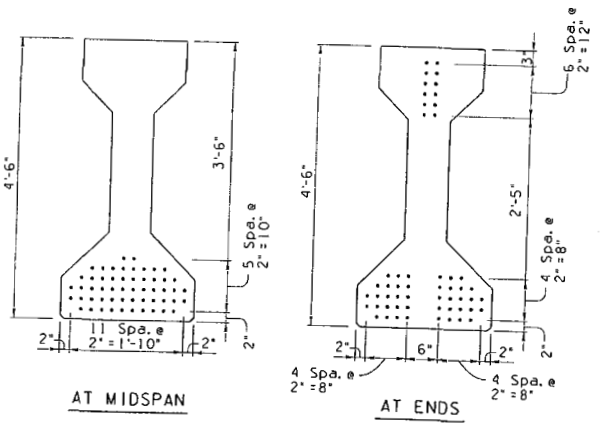
LOCATION
FLORENCE-KELVIN HIGHWAY

TF-170864 10/01/2013

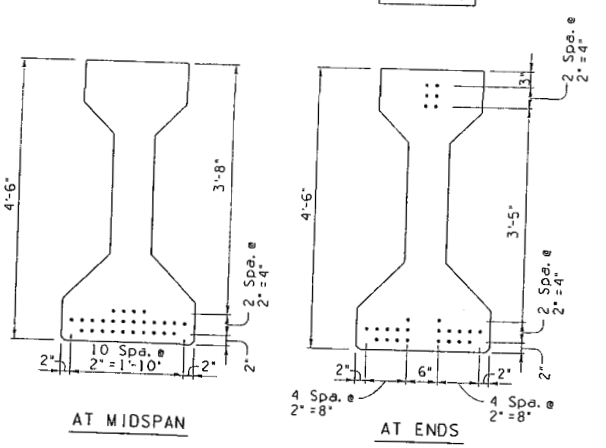
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			



STRAND PATTERN - SPANS 1, 2, 3, 5, 7 (1)
No Scale (40 - ½" Diam. 7-Wire Strands)



STRAND PATTERN - SPAN 4 (2)
No Scale (54 - ½" Diam. 7-Wire Strands)



STRAND PATTERN - SPANS 6 & 8 (3)
No Scale (26 - ½" Diam. 7-Wire Strands)

	NAME	DATE
DESIGN	JAC	10/13
DRAWN	DY	10/13
CHECKED	JAC	10/13

Cannon Consultants, LLC
263-1100

PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
GIRDER DETAILS

10645

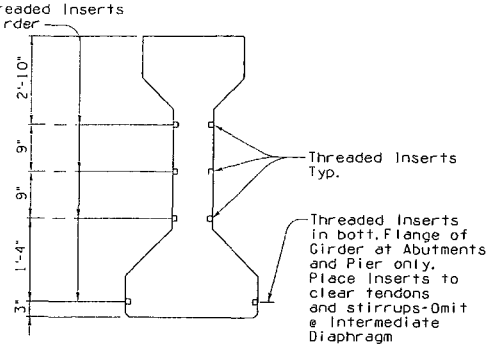
LOCATION
FLORENCE-KELVIN HIGHWAY

PRELIMINARY
STAGE III
60% COMPLETE REVIEW
NOT FOR CONSTRUCTION OR RECORDING

10/9/2013

E:\JOBS\CC\CC12\CC1264 KELVIN BRIDGE\PLANS\CC1264 GIRDER DETAILS.DWG

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			

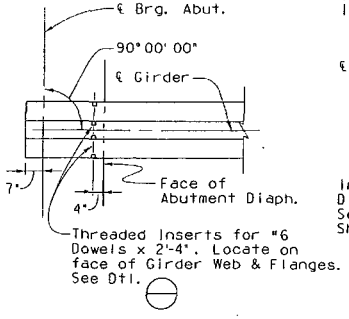


TYPICAL GIRDER INSERTS

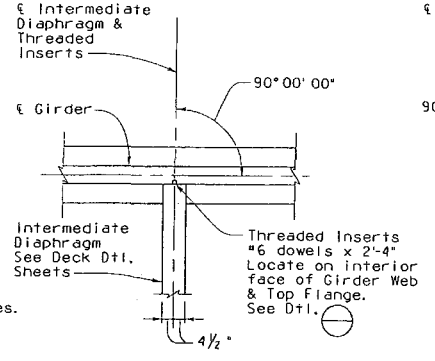
Notes:

1. Threaded inserts are ferrule loop inserts or #6 reinforcing bars threaded on end. ¾" rods may be used in place of #6 reinforcing bars.
2. Threaded inserts may be placed normal to girder web or on a skew. If placed normal to web, field bend inserted bars in such a manner as to prevent bending stress at root of threads. Shop drawings shall indicate method of bending.

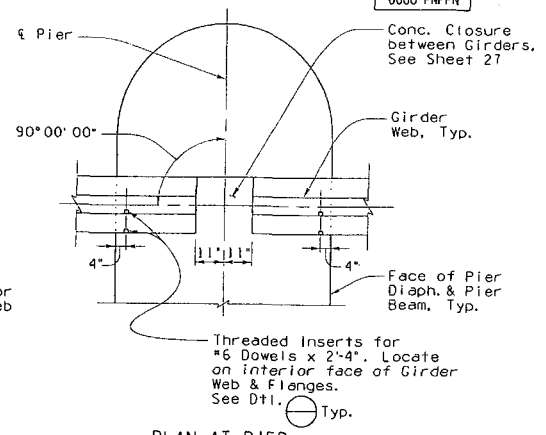
TYPICAL GIRDER INSERT DETAIL (1)
1" = 1'-0"



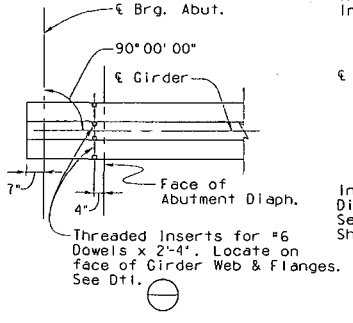
PLAN AT ABUTMENT
EXTERIOR GIRDER



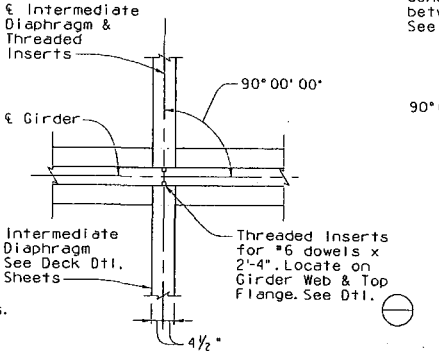
PLAN AT INTERMEDIATE DIAPH.
EXTERIOR GIRDER



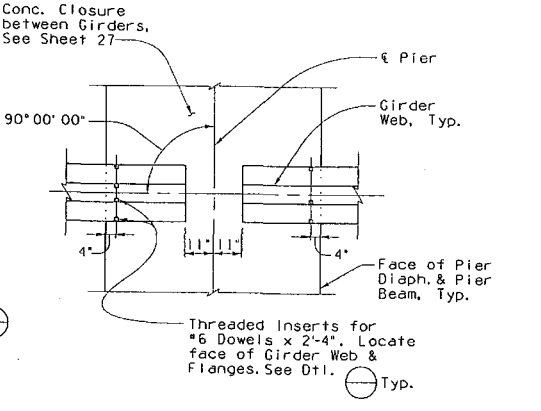
PLAN AT PIER
EXTERIOR GIRDER



PLAN AT ABUTMENT
INTERIOR GIRDER



PLAN AT INTERMEDIATE DIAPH.
INTERIOR GIRDER



PLAN AT PIER
INTERIOR GIRDER

TYPICAL GIRDER INSERT DETAILS (2)
½" = 1'-0"

	NAME	DATE
DESIGN	JAC	10/13
DRAWN	DY	10/13
CHECKED	JAC	10/13

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PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
GIRDER DETAILS

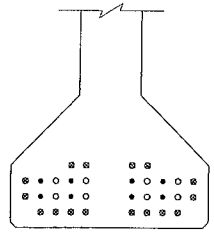
ROUTE	MILEPOST	STRUCTURE NO.	LOCATION
-	-	10645	FLORENCE-KELVIN HIGHWAY

263-1100
1-800-STAKE IT (for you)

PRELIMINARY
STAGE III SUBMITTAL
60% REVIEW
NOT FOR CONSTRUCTION OR RECORDING
Expires 6/30/2014

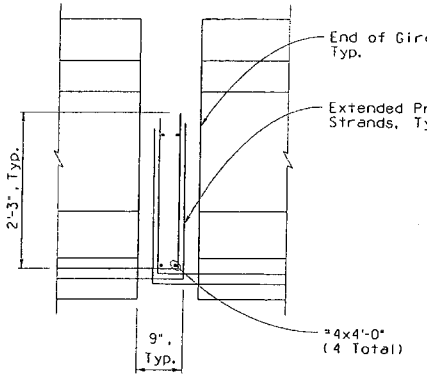
DATE | DESCRIPTION OF REVISION | MADE BY

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			

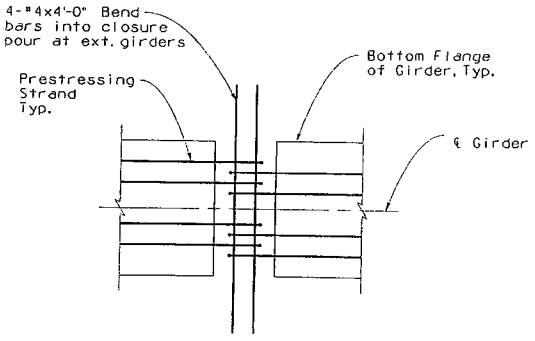


SECTION

- ⊠ Strand cut flush with Girder end
- o Extended strands
- • Extended strands for adjacent girder

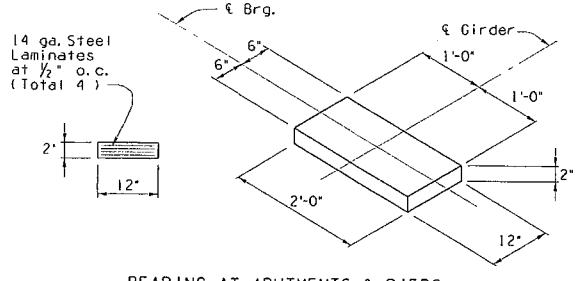


ELEVATION



PLAN

TYPICAL END OF GIRDER DETAIL AT FIXED PIERS (1)
No Scale



BEARING AT ABUTMENTS & PIERS

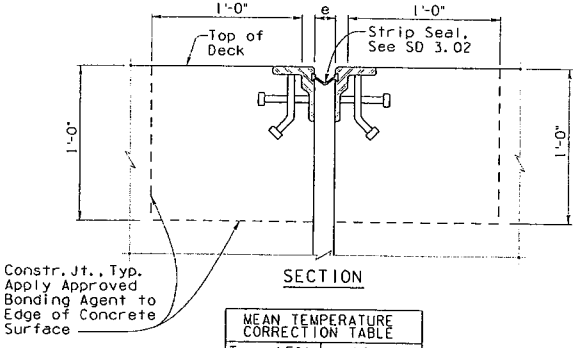
Notes:

1. Elastomer shall be 100% virgin polychloroprene with a shear modulus of 130 psi at 73°F.
2. Elastomeric bearing pads shall be reinforced with steel laminates.
3. Bearing pad design parameters:

   Design method: AASHTO Method A
   Design load: 206 kips

4. Low temperature zone: A
   Elastomer grade: 0
5. Durometer hardness: 60
6. The cost of elastomeric bearing pads shall be considered incidental to the cost of the bridge structure.

ELASTOMERIC BEARING PADS (2)
No Scale



SECTION

MEAN TEMPERATURE CORRECTION TABLE	
Temp (F°)	e (inch)
100	1⅝"
90	1¼"
80	1⅛"
70	2"
60	2⅛"
50	2¼"
40	2⅜"
30	2½"

Expansion Joint Notes:

1. For details not shown, see Dwg. SD 3.02. The Contractor shall take due care in the placement of the concrete under the joint angles to ensure that proper consolidation is achieved. After placement, the Engineer shall inspect the joint for voids by sounding the angle with a hammer. All voids shall be repaired by the Contractor by epoxy injection.
2. Contractor to provide elastomeric strip seal deck joint assemblies with the following movement rating: 4 inches
3. Joints to be watertight on the deck.
4. Joint seals to be removable and replaceable with minimum interruption to traffic.
5. Cast-in-place support anchorages shall be used.
6. Contractor to submit complete details and supportive test data to the Engineer sufficiently in advance of placing deck concrete in order that acceptability of the joint can be determined by the Engineer without delay to construction.
7. Joint installation to be supervised by a technical advisor from the joint manufacturer.

EXPANSION JOINT DETAIL (3)
No Scale

	NAME	DATE
DESIGN	JAC	10/13
DRAWN	DY	10/13
CHECKED	JAC	10/13

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263-1100

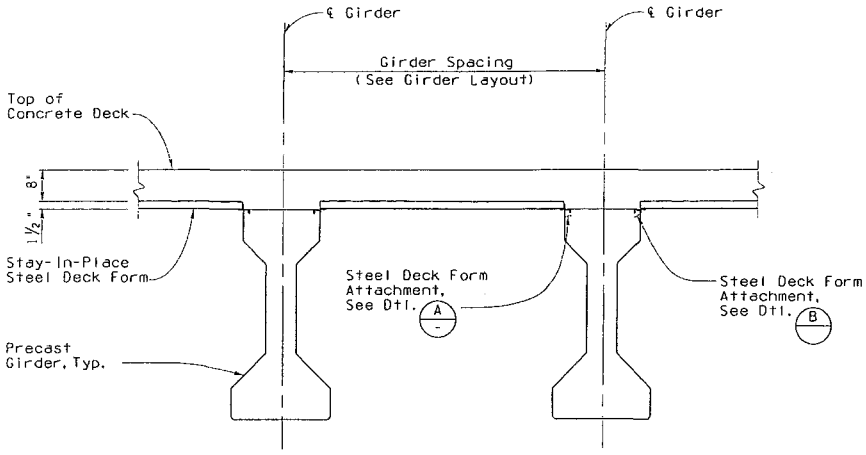
PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
GIRDER DETAILS

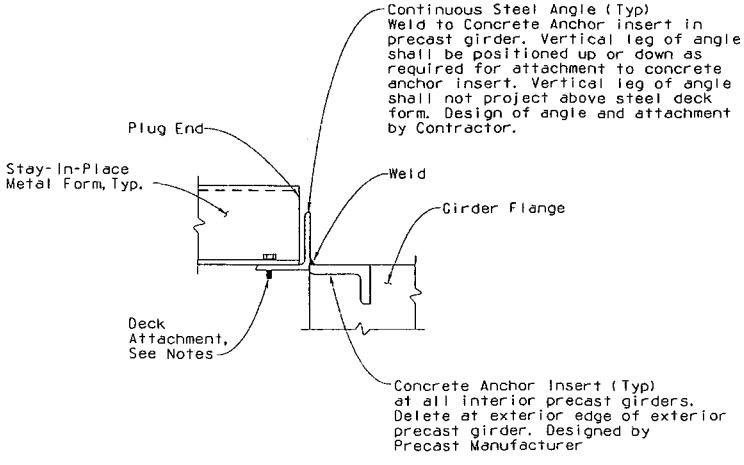
ROUTE		10645	LOCATION
-	-		FLORENCE-KELVIN HIGHWAY

PRELIMINARY PLANS
60% REVIEW
NOT FOR CONSTRUCTION OR RECORDING

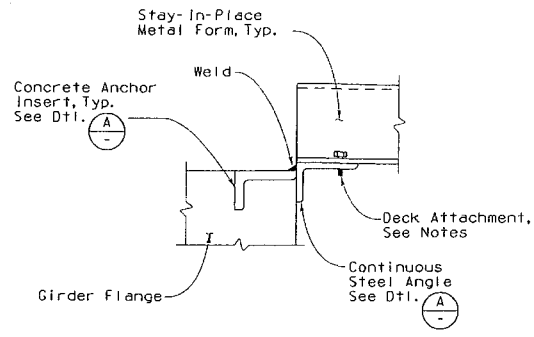
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			



OPTIONAL STAY-IN-PLACE STEEL DECK FORM
No Scale



DETAIL A
No Scale



DETAIL B
No Scale

STAY-IN-PLACE STEEL DECK FORM NOTES:

Stay-in-Place steel deck forms may be used at the Contractor's option.

The elevation at the top of the girders shall be measured after erection of the girders and prior to placement of the deck forms.

The concrete insert anchors may be cast with the girder to accommodate the use of stay-in-place forms. Alternate methods of support will be considered provided the detail is adequate to support the loads, prevent leakage and allow adjustment for the varying build-up to maintain a constant deck thickness.

The deck panels and angles shall be galvanized in accordance with ASTM A123. All bolts shall conform to ASTM Specification A325. All nuts, bolts, and washers shall be galvanized in accordance with the requirements of ASTM A153.

The Contractor shall submit sealed structural calculations and shop drawings showing details of the stay-in-place deck forms including the method of installation and adjustment to the Bridge Engineer for review. The deck form submittal must be made simultaneously with the precast girder shop drawings to ensure coordination between the girder fabrication and the stay-in-place deck form design.

The Contractor shall use due care in the placement of the girders to ensure a constant distance is maintained between girder flanges.

The Contractor shall determine the sizes of all bolts, welds, angles, etc to support the required loads.

The cost of stay-in-place forms is incidental to the cost of the deck concrete.

	NAME	DATE
DESIGN	JAC	10/13
DRAWN	DY	10/13
CHECKED	JAC	10/13

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PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
MISCDELLANEOUS DECK DETAILS

ROUTE	MILEPOST	STRUCTURE NO.
-	-	10645

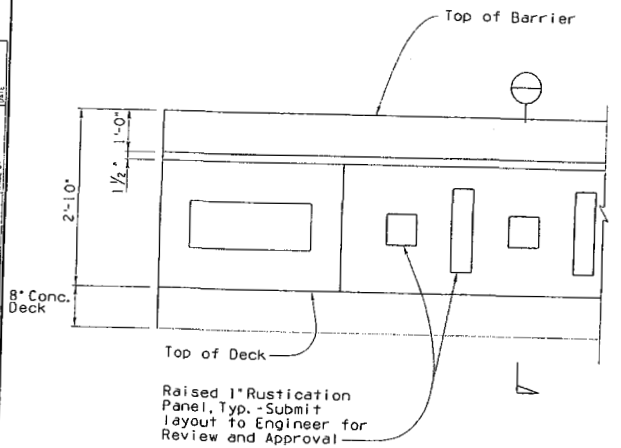
LOCATION
FLORENCE-KELVIN HIGHWAY

PRELIMINARY
STAGE III
60% REVIEW
NOT FOR CONSTRUCTION OR RECORDING
Expires 6/30/2014

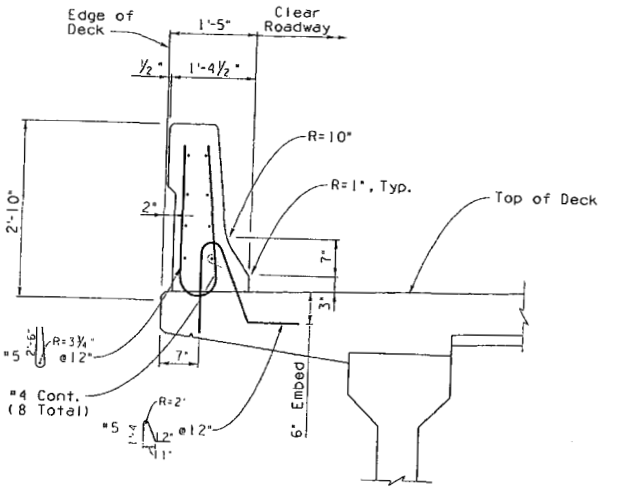
263-1100
1-800-STAKE-IT

B38 of

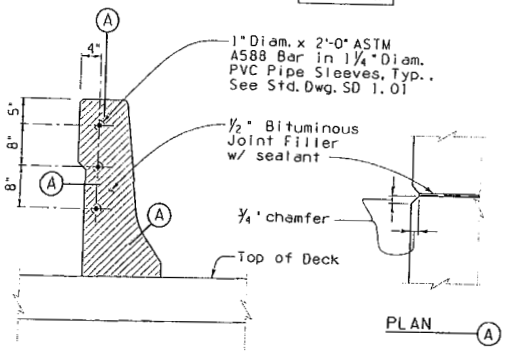
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			



BARRIER ELEVATION
1" = 1'-0" (1)

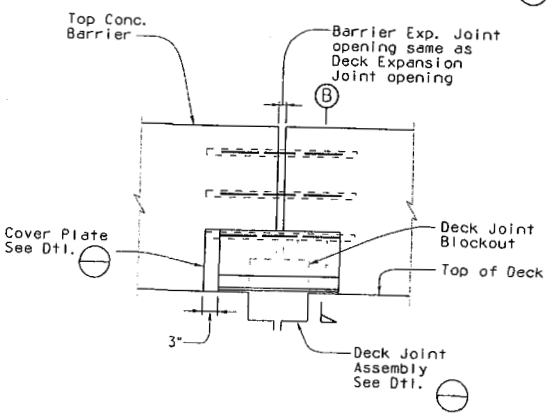


BARRIER TYPICAL SECTION
1" = 1'-0" (2)

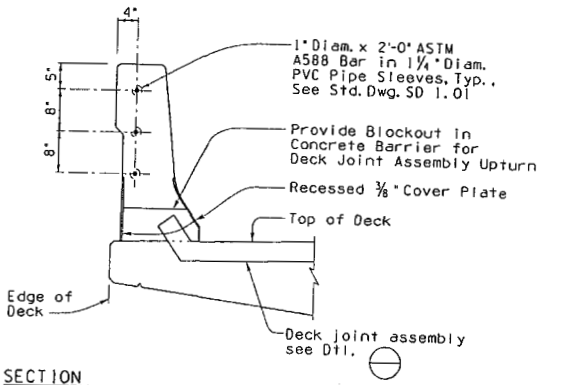


PLAN A

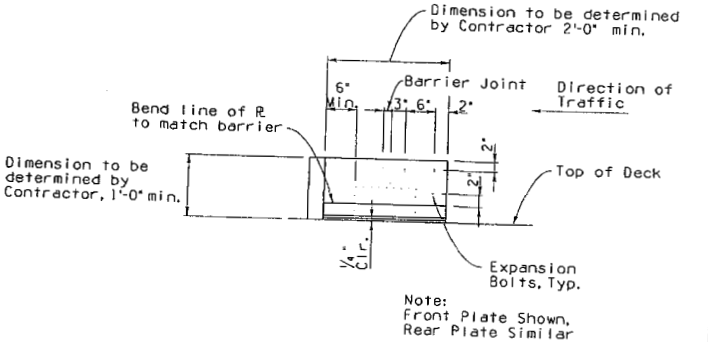
BARRIER JOINT AT PIER
1" = 1'-0" (4)



BARRIER JOINT AT ABUTMENTS
1" = 1'-0" (3)



SECTION B



COVER PLATE DETAIL
1" = 1'-0" (5)

	NAME	DATE
DESIGN	JAC	10/13
DRAWN	DY	10/13
CHECKED	JAC	10/13

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PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
BARRIER DETAILS

FLORENCE-KELVIN HIGHWAY

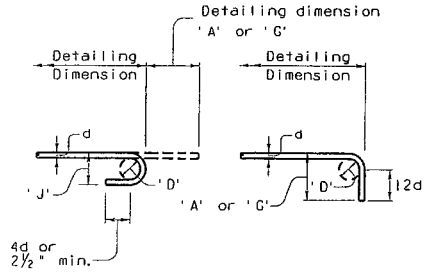
10645

PRELIMINARY
60% REVIEW
NOT FOR CONSTRUCTION OR RECORDING

263-1100

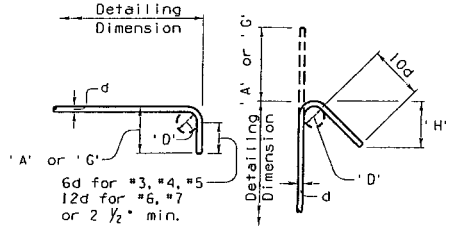
10/15/2013

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			



180° & 90° Standard Hooks

	Bar Size								
Hook	3	4	5	6	7	8	9	10	11
'D'	2¼"	3"	3¾"	4½"	5¼"	6"	9½"	10¾"	12"
180° 'A' or 'G'	5"	6"	7"	8"	10"	11"	1'-3"	1'-5"	1'-7"
'J'	3"	4"	5"	6"	7"	8"	11¼"	1'-1¼"	1'-2¾"
90° 'A' or 'G'	6"	8"	10"	1'-0"	1'-2"	1'-4"	1'-8"	1'-10"	2'-0"



90° & 135° Standard Hooks (stirrups & ties)

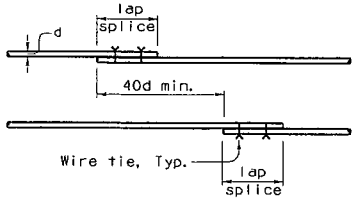
	Bar Size				
Hook	3	4	5	6	7
'D'	1½"	2"	2½"	4½"	5¼"
135° 'A' or 'G'	5"	6½"	8"	10¾"	1'-0½"
'H' (approx.)	3½"	4½"	5½"	6½"	7¾"
90° 'A' or 'G'	4"	4½"	6"	1'-0"	1'-2"

Notes:

1. Typical for all drawings u.n.o.
2. All bar bends to be cold bent.

STANDARD REINF. BAR HOOK DETAILS (1)

No Scale



Bar size	3	4	5	6	7	8	9	10	11
Lap Splice	12"	16"	20"	26"	35"	45"	57"	73"	89"

Notes:

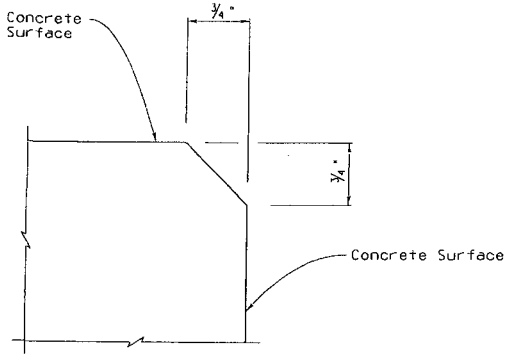
1. Laps provided in table are to be used as minimum for lapping horizontal reinforcing, typical unless noted otherwise.
2. The minimum lap requirements are based on Grade 60 reinforcing and 3,000 psi concrete for a Class B splice. The lap requirements shall be modified by the following appropriate factors except that bars smaller than #7 shall not be modified for concrete strength:

Bar spacing at least 6" & w/ at least 3" clr. cover in the direction of spacing	= 0.80
4,000 psi Concrete	= 0.87
4,500 psi Concrete	= 0.82
Top bars	= 1.40

3. Top bars have more than 12" of concrete cast below them.
4. Lap splices shall not be less than 12".
5. Deviation requires approval of the Engineer.

HORIZ. REINF. LAP SPLICE DETAIL (2)

No Scale



TYPICAL CHAMFER DETAIL (3)

No Scale

	NAME	DATE
DESIGN	JAC	10/13
DRAWN	DT	10/13
CHECKED	JAC	10/13

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PINAL COUNTY
PUBLIC WORKS DEPARTMENT

KELVIN BRIDGE OVER GILA RIVER
MISCELLANEOUS DETAILS

ROUTE	MILEPOST	STRUCTURE NO.
-	-	10645

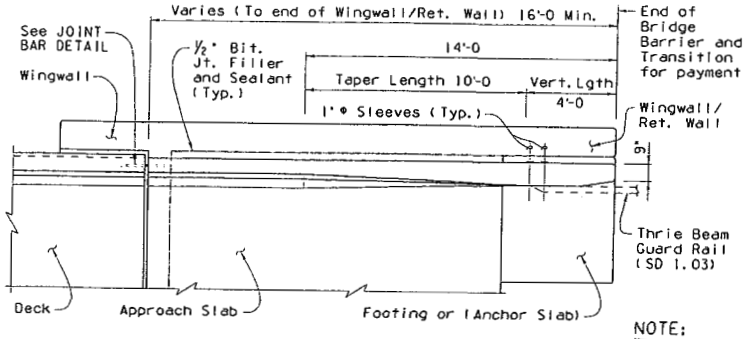
LOCATION: FLORENCE-KELVIN HIGHWAY

TRACS NO. 0000 PN PPN SR41D 01C — PP PPN 01(169)A

PRELIMINARY STAGE III 60% REVIEW NOT FOR CONSTRUCTION OR RECORDING Expires 6/30/2014

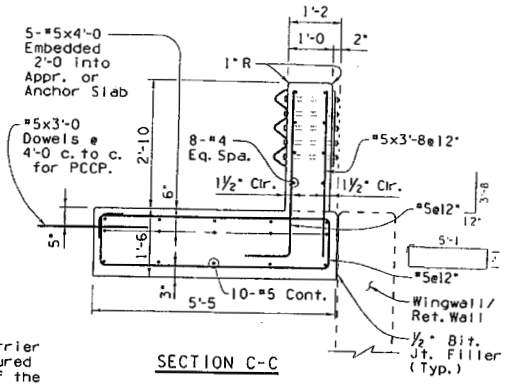
263-1100
1-800-STAKE-IT

B40 of

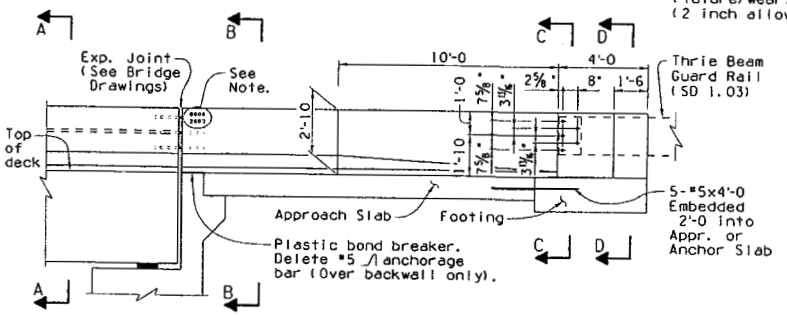


PLAN

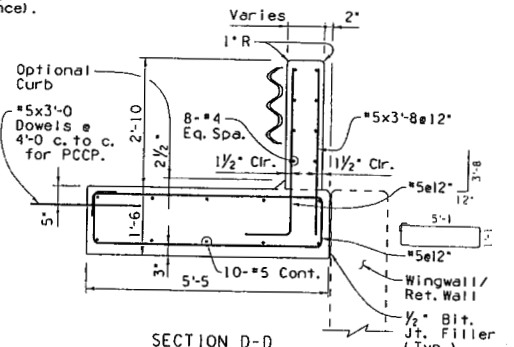
NOTE:
The 32 inch barrier height is measured from the top of the (future) wearing surface (2 inch allowance).



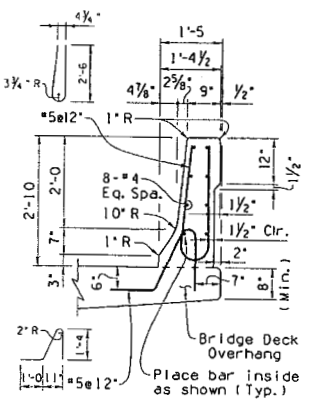
SECTION C-C



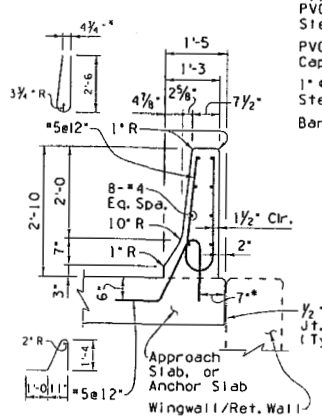
ELEVATION



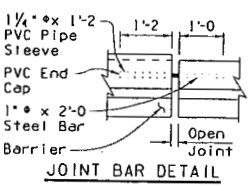
SECTION D-D



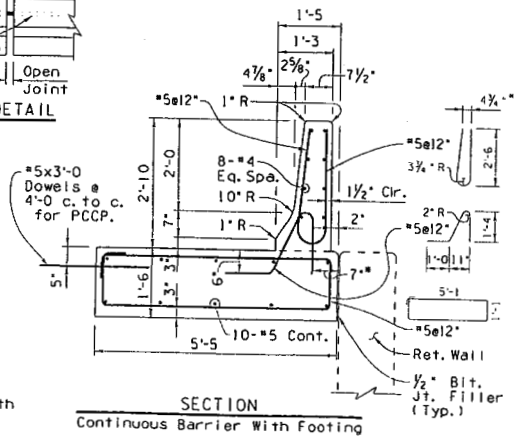
SECTION A-A



SECTION B-B



JOINT BAR DETAIL



SECTION
Continuous Barrier With Footing

*Varies at taper length

GENERAL NOTES:

Construction Specification - Arizona Department of Transportation Standard Specifications for Road and Bridge Construction, latest Edition.

Design Specifications - AASHTO LRFD Bridge Design Specifications, 4th Edition 2007.

This barrier has been successfully crash tested and is structurally evaluated as meeting the requirements of NCHRP Report 350 Test Level 4.

All Concrete shall be Class "S" (f'c = 4000 psi).

Reinforcing steel shall conform to ASTM Specification A615. All reinforcing shall be furnished as Grade 60. All reinforcing shall be epoxy coated at locations above EL. 4000 ft.

All bends and hooks shall meet the requirements of AASHTO LRFD Article 5.10. All bend dimensions for reinforcing steel shall be out-to-out of bars. All placement dimensions for reinforcing steel shall be to center of bars unless noted otherwise.

All reinforcing steel shall have 2 inch clear cover unless noted otherwise.

Concrete barriers on continuous superstructures shall have ½" bituminous joint filler in open joints over piers. See bridge drawings for details.

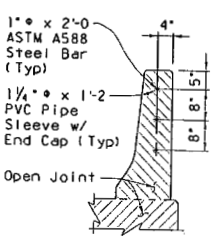
Imbed ½", Bridge Number and Year Built, using 1½" w x 2"h number impressions in concrete, located as shown at the approach end of the outside lane.

⌒ Anchorage bars are included in the pay item for barrier (Item No. 6011130).

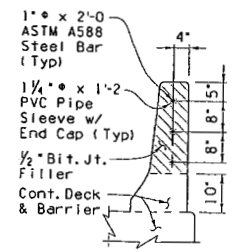
Omit bridge barrier transition when concrete barrier is continuous beyond bridge.

Dimensions shall not be scaled from drawings.

Item No. 6011130 F-SHAPE BRIDGE CONCRETE BARRIER AND TRANSITION (32")
Measure: Linear Foot



OPEN JOINT DETAIL
At Expansion Joints



OPEN JOINT DETAIL
Over Continuous Piers

DESIGN ENGINEER: Shafi U. Hasan	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION BRIDGE GROUP STRUCTURE DETAIL
APPROVED FOR DISTRIBUTION: Tom A. Nehme	32 INCH F-SHAPE BRIDGE CONCRETE BARRIER AND TRANSITION
STATE / LOCATION	PROJECT NO. TRACS NO. / FA NO. 010 BR-PPN-0(169)A / DRAWING NO. SD 1.01 / SHEET NO.

Note to Designer:
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NO.	DESCRIPTION OF REVISIONS	MADE BY	DATE
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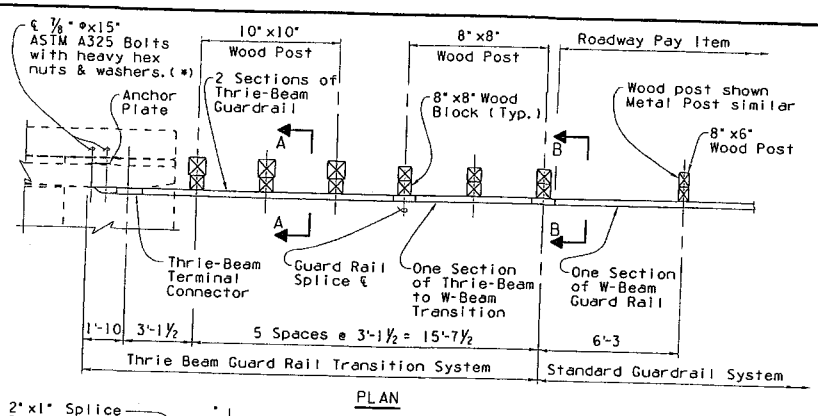
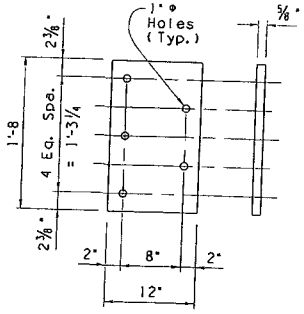
2	Revise as shown	K.U.H.	3-07
3			
4			
5			

10/01/2007



PLAN

(*) 7/8" ø x17" bolts for 42" F-Shape barrier transition.



ANCHOR PLATE

GENERAL NOTES:

Thrie Beam Transition Hardware provided is per AASHTO-AGC-ARTBA Joint Committee Task Force 13 Report.

Structural steel shall conform to ASTM Specification A36 unless noted otherwise.

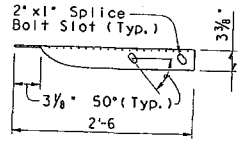
Anchor plates, terminal connectors and thrie beams shall be galvanized after fabrication in accordance with ASTM A123 unless noted otherwise. All bolts, nuts and washers shall be galvanized in accordance with the requirements of ASTM A153. At the contractors option, stainless steel bolts and washers may be used. They shall conform to or exceed the mechanical requirements of ASTM A325. Provide additional washers, as needed, for longer bolt length.

Overlap of the terminal connector, thrie beam, transition and guardrails shall be in the direction of the adjacent traffic lane.

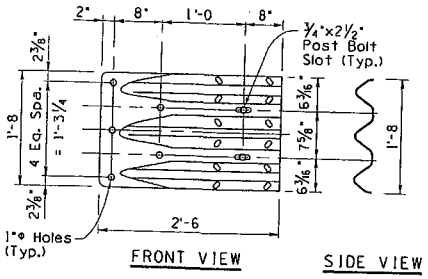
Dimensions shall not be scaled from drawings.

Item No. 9050430 THRIE BEAM GUARD RAIL TRANSITION SYSTEM

Measure: Each

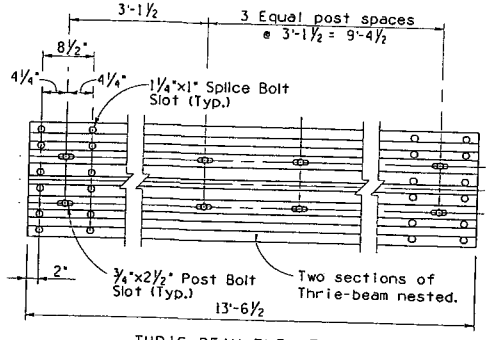


TOP VIEW

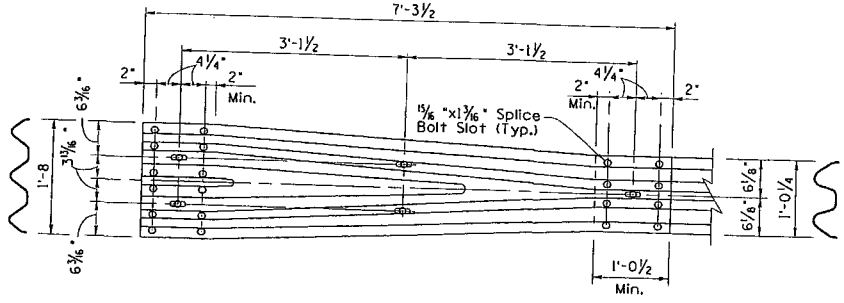


FRONT VIEW SIDE VIEW

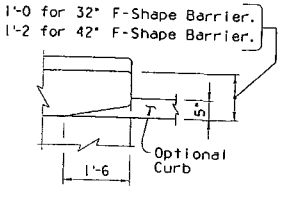
THRIE BEAM TERMINAL CONNECTOR



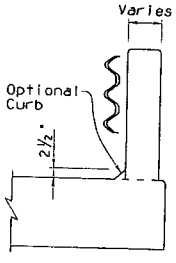
THRIE BEAM ELEVATION



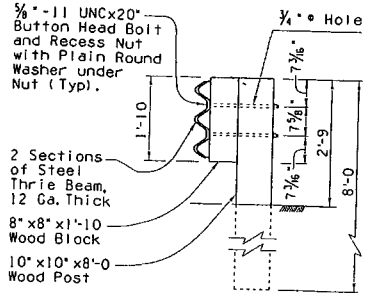
TRANSITION ELEVATION



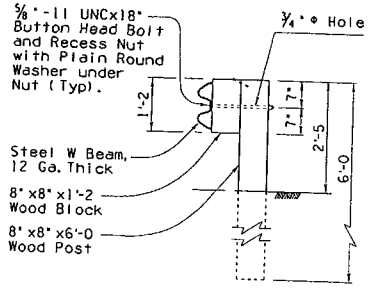
PART. PLAN (Showing Opt. Curb)



END VIEW (Showing Opt. Curb)



SECTION A-A



SECTION B-B

Note to Designers:
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NO.	DESCRIPTION OF REVISIONS	INITIAL BY	DATE
1	Original Issue	K.SHA.	8-99
2	General Update	K.SHA.	1-07
3			
4			
5			
6			
7			

DESIGN APPROVED: Shafi U. Hasan
SUBMITTED FOR DISTRIBUTION: Jean A Nehme

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
BRIDGE GROUP STRUCTURE DETAIL

THRIE BEAM GUARD RAIL TRANSITION SYSTEM

ROUTE: — | F.A. NO.: — | STATE: AZ | DRAWING NO.: SD 1.03
LOCATION: FLORENCE-KELVIN HIGHWAY | SHEET NO.: sd103.DF

cccccSYSTIMEccccc ccccDGNcSPECIFICATIONcccc

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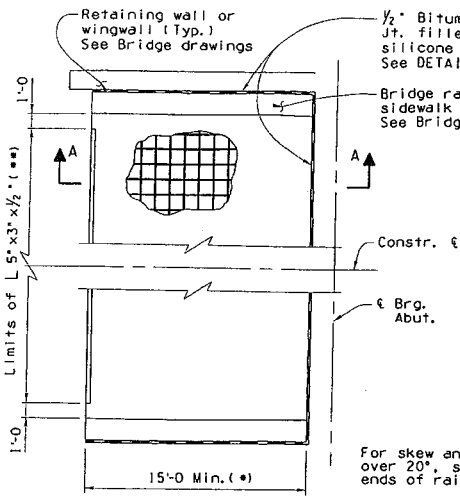
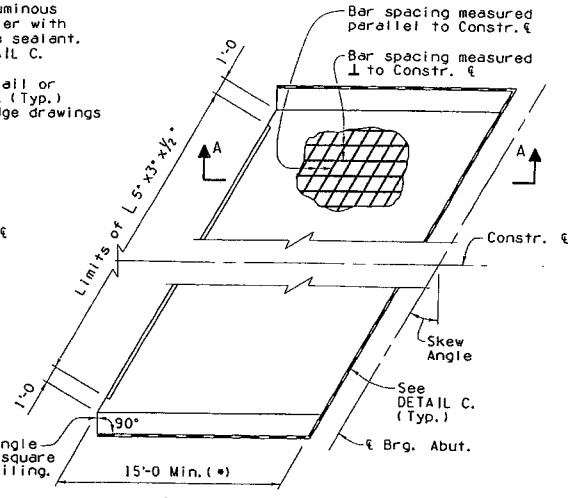
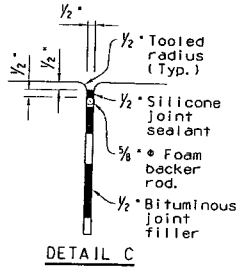


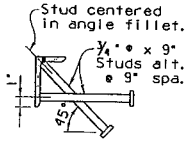
PLAN A
Rt. Angle Bridge



PLAN B
Skewed Bridge Without Anchor Slab
Skew Angle ≤ 45°



DETAIL C



ALT. ANCHOR DETAIL

GENERAL NOTES:

Construction Specification - Arizona Department of Transportation Standard Specifications for Road and Bridge Construction, latest Edition.

Design Specifications - AASHTO LRFD Bridge Design Specifications, 4th Edition 2007.

All Concrete shall be Class "S" (f'c = 4000 psi).

Reinforcing steel shall conform to ASTM Specification A615. All reinforcing shall be furnished as Grade 60. All reinforcing shall be epoxy coated at locations above EL. 4000 ft.

All bends and hooks shall meet the requirements of AASHTO Article 5.10. All bend dimensions for reinforcing steel shall be out-to-out of bars. All placement dimensions for reinforcing steel shall be to center of bars unless noted otherwise.

All reinforcing steel shall have 2 inch clear cover unless noted otherwise.

Structural steel shall conform to ASTM specification A588 Grade 50 or A709 Grade 50W.

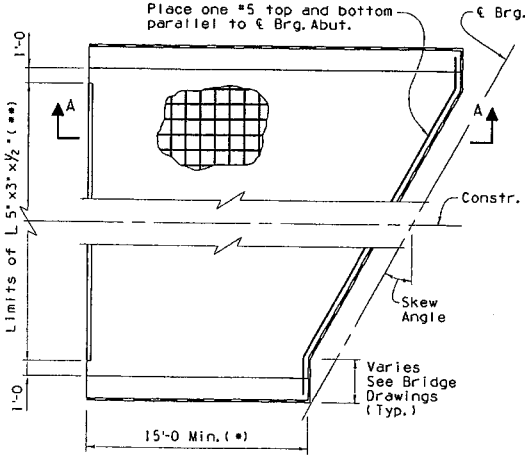
All welding shall conform to the requirements of the American Welding Society, ANSI/AASHTO/AWS D1.5 Bridge Welding Code, latest Edition.

Dimensions shall not be scaled from drawings.

Item No. 6011371 APPROACH SLAB
Measure: Square Foot

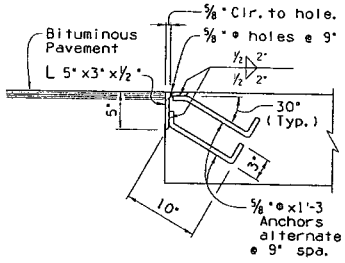
JOINT NOTE:

½" Silicone joint sealant shall be ASTM D5893 Type NS. 2" Silicone joint sealant shall be rapid-cure, self leveling, two-part silicone rubber sealant designed for expansion joints. Prime coat concrete sides of joint. Do not prime coat the backer rod. Backer rod shall be closed cell polyethylene foam.

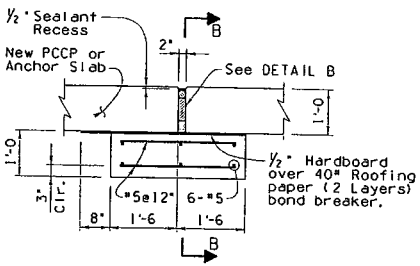


PLAN C
Skewed Bridge
Skew Angle > 45°

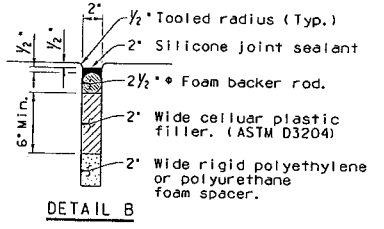
(**) Omit total guard angle for concrete pavement alternate.



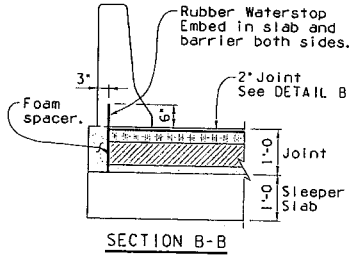
DETAIL A
Bituminous Pavement Alternate



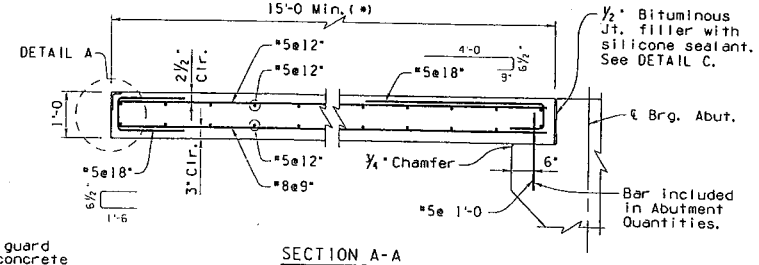
DETAIL A
Concrete Pavement Alternate



DETAIL B



SECTION B-B



SECTION A-A

(*) See Bridge drawings for length.

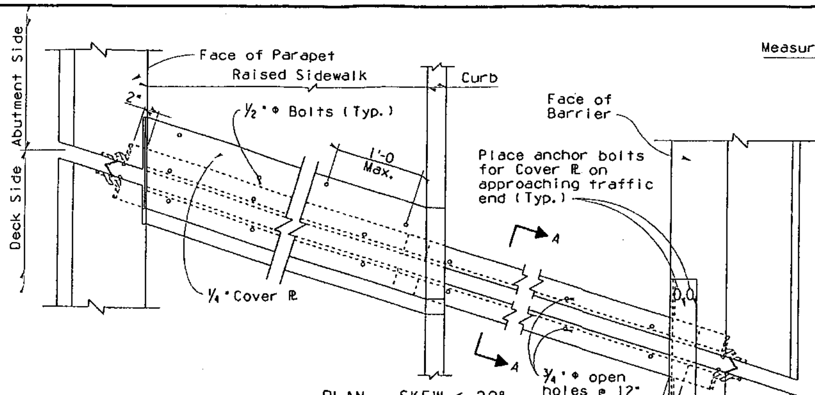
NO.	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	Bridge Name	KMA	12-07
2	General Update	KMA	12-07
3	*	*	*
4	*	*	*

Note to designer:
The information presented in this Standard Detail has been prepared in accordance with recognized engineering principles and is for general use. For more specific application without further investigation and verification of its suitability by a licensed professional engineer. Contents within the inner border line shall not be altered.

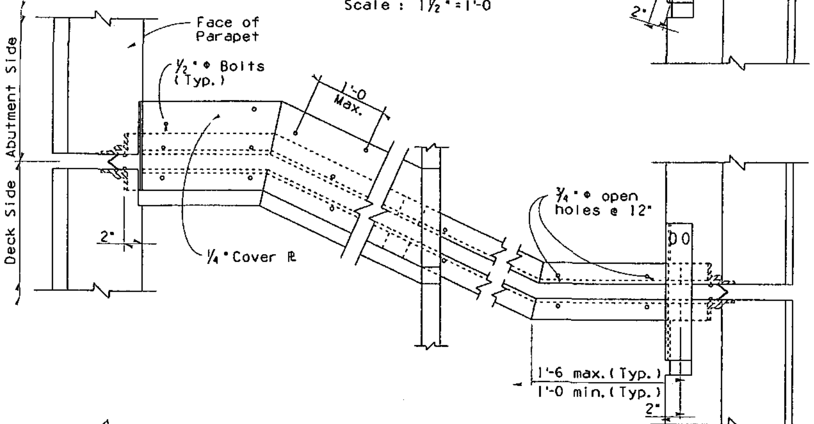
DESIGN APPROVED: Shafi U. Hasan	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION BRIDGE GROUP STRUCTURE DETAIL
APPROVED FOR DISTRIBUTION: Jean A. Nehme	APPROACH SLAB DETAILS
ROUTE: TRACS; PROJECT NO.: BR-PPN-0(169)A; DRAWING NO.: SD 2.01	
LOCATION: FLORENCE-[illegible] HIGHWAY	SHEET NO.

10/17/2013

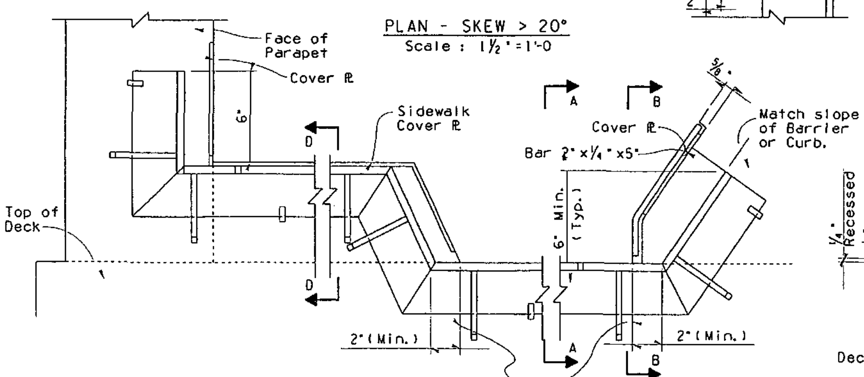
E:\PROJECTS\PROJECTS\2011 ROADWAY\TRACS\BR-PPN-0(169)A\Bridge\SD2.01_Approach Slab Details.dgn



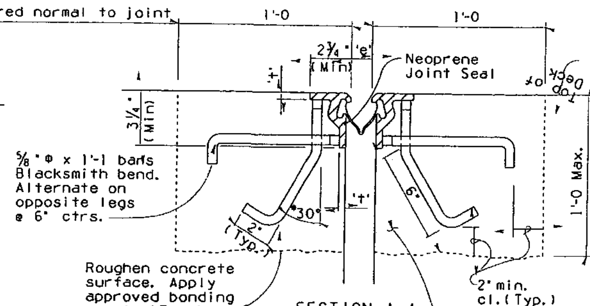
PLAN - SKEW ≤ 20°
Scale : 1 1/2" = 1'-0



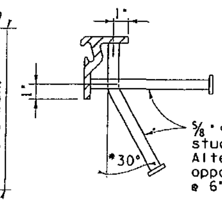
PLAN - SKEW > 20°
Scale : 1 1/2" = 1'-0



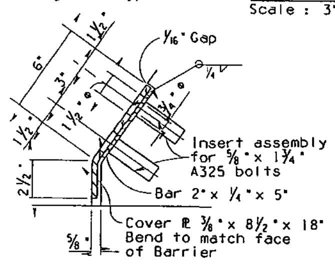
ELEVATION
Scale : 3" = 1'-0



SECTION A-A
Scale : 3" = 1'-0



ALTERNATE ANCHOR DETAIL
Scale 3" = 1'-0



SECTION C-C
Scale : 3" = 1'-0

NOTES :

The Strip Seal Joint may be used only for movement ratings of 4 inches or less.

The 'e' value may require recalculation and Movement Rating increased to accommodate minimum installation opening prior to approval of the shop drawings.

Retainer rails may be of A36 or A588 extrusions. Minimum weight per foot = 8.5 Lbs Minimum thickness, 't' = 3/8 inches Rails shall be supplied in the maximum length practical consistent with normal manufactured length of the rail. Rail splices when required shall be field welded per DETAIL E.

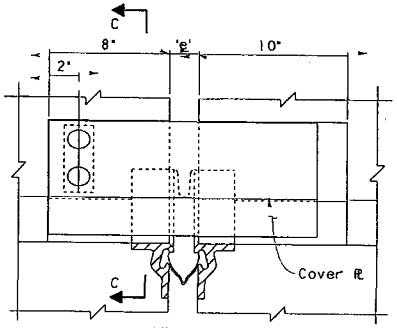
The neoprene seal shall be supplied continuous full length without splices.

Unless noted otherwise extrusions using A36 steel and all plates shall be painted. Surfaces in contact with concrete and recess area for strip seal shall not be painted. A588 extrusions and plates need not be painted.

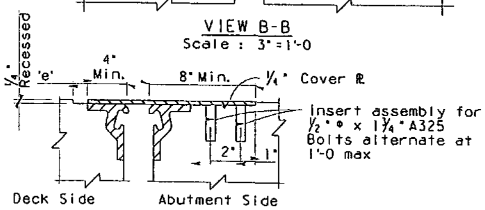
Joint seal assembly to be used in conjunction with closure pour. (See bridge drawings for limits). Closure pour shall not be placed until final deck surface is within the tolerance specified.

Sidewalk cover plates shall be 1/4" thick galvanized steel with non-slip (deformed) surface. Details may vary from those shown here and shall be shown on the shop drawings.

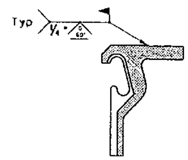
Item No. 6011345, Deck Joint Assembly (Strip Seal Joint) Measurement: LF.



VIEW B-B
Scale : 3" = 1'-0



SECTION D-D
Scale : 3" = 1'-0



DETAIL E

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	BR-PPN-0(169)A			
		0000 PNPPN			

DESIGN APPROVED: (signature)	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION BRIDGE GROUP STRUCTURE DETAIL
APPROVED FOR DISTRIBUTION: (signature)	DECK JOINT ASSEMBLY STRIP SEAL
ROUTE / LOCATION: FLORENCE-KELVIN HIGHWAY	DRAWING NO. SD 3.02
BR-PPN-0(169)A	sd302 OF

Note to Designer:
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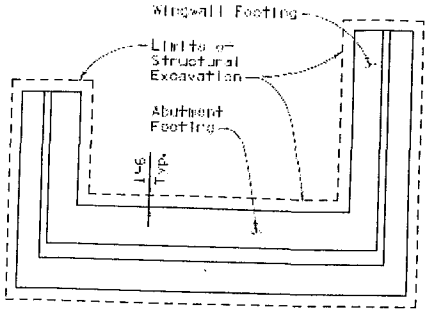
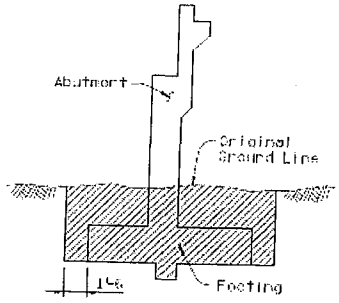
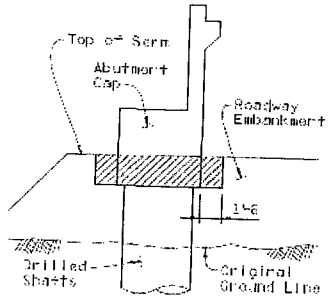
NO.	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	Original Issue	G.U.K.	9-01
2	Drawing Number Change	G.U.K.	8-02
3			
4			

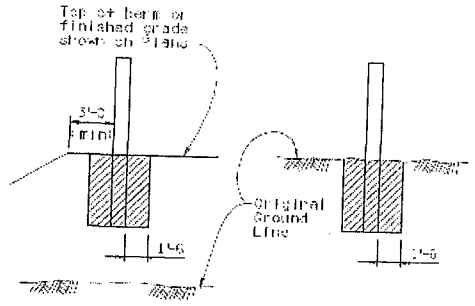


TYPICAL ABUTMENT FOOTING PLAN

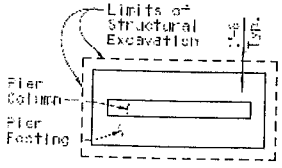




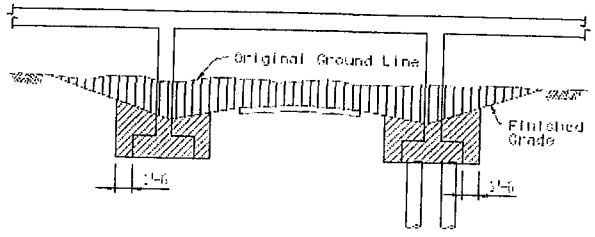
TYPICAL ABUTMENT SECTIONS

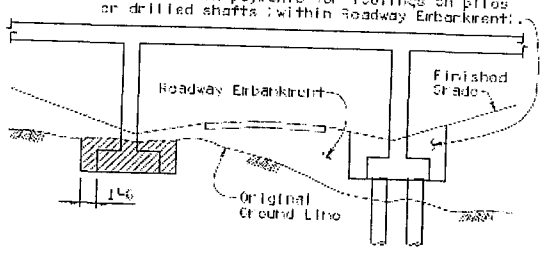


WINGWALLS

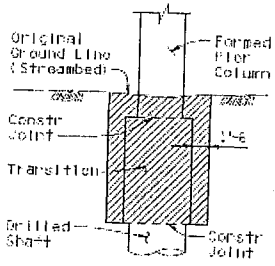


TYPICAL PIER FOOTING PLAN

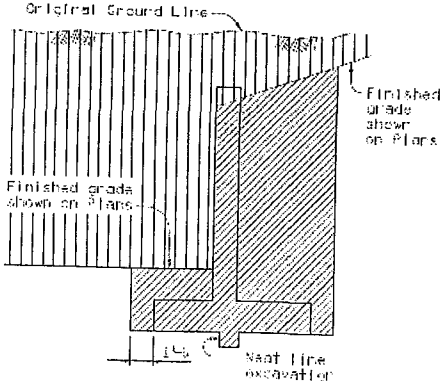


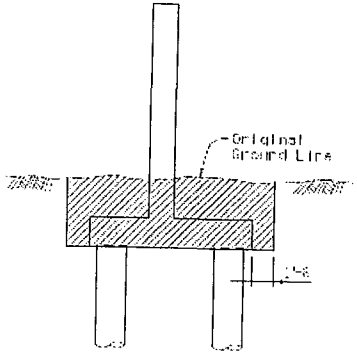


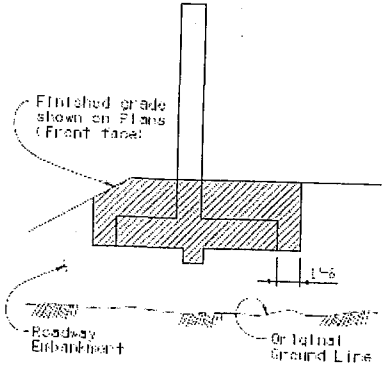
TYPICAL PIER ELEVATIONS



PIER SECTION







TYPICAL RETAINING WALL SECTIONS

LEGEND

Structural Excavation

Roadway Excavation

NOTES:

For structure foundations above original ground line, construct roadway embankment to top of berm or finished grade before structural excavation is made.

Where no roadway excavation or embankment is involved, structural excavation shall be measured from the original ground line.

Geoff P. Moore	OREGON DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION BRIDGE GROUP STRUCTURE DETAIL
Tom A. Holmes	STRUCTURAL EXCAVATION PAYMENT LIMITS
	DRAWING NO. SD 5.01

10/9/2013

I NO. EC 12084

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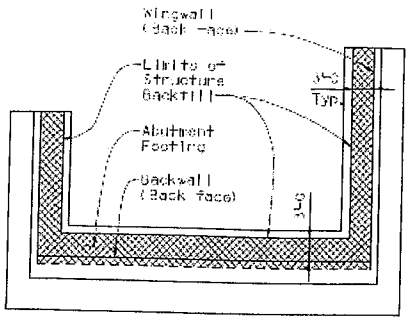
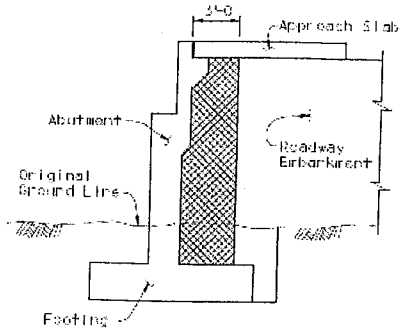
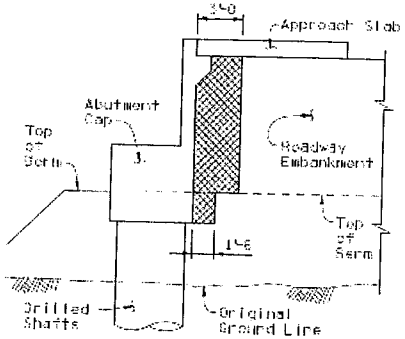
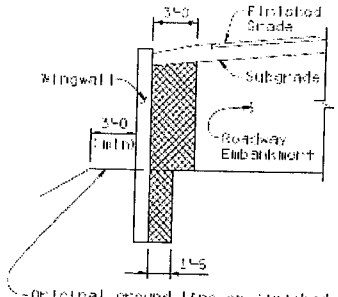


TYPICAL ABUTMENT FOOTING PLAN

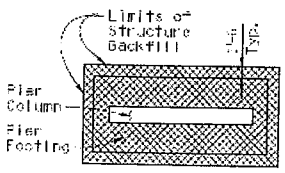




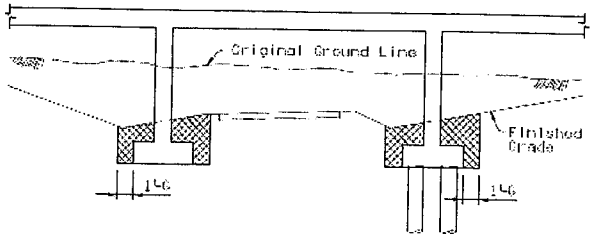
TYPICAL ABUTMENT SECTIONS

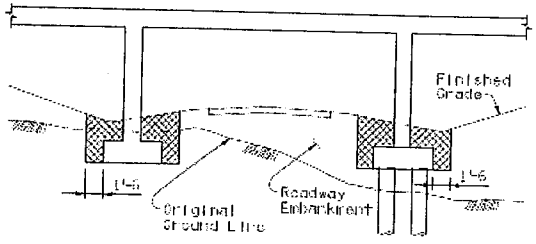


WINGWALL



TYPICAL PIER FOOTING PLAN





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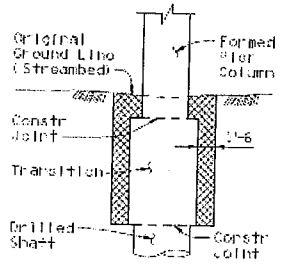

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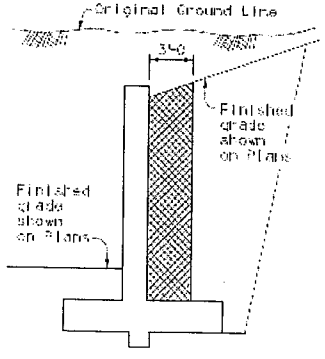

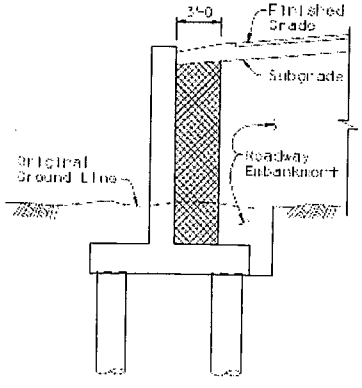

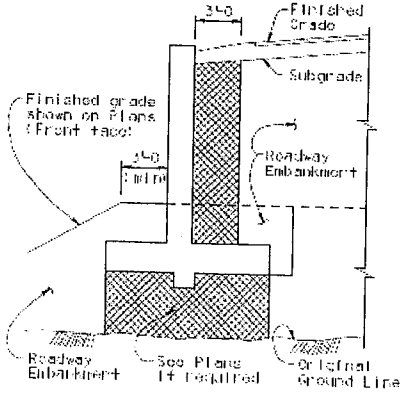

TYPICAL RETAINING WALL SECTIONS

LEGEND

Structure Backfill

NOTES:

Structure backfill shall be compacted to a minimum of 100% of the maximum density (ASTM D698).

ADOT Engineer: Sharif Rahman	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION BRIDGE GROUP STRUCTURE DETAIL	
APPROVED FOR DISTRIBUTION: Jean A. Nehme	STRUCTURE BACKFILL PAYMENT LIMITS	
DATE	PROJECT NO.	DRAWING NO. SD 5.02
DESIGNED		SHEET NO. OF

10/9/2013

BRU NO. EC-12884

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